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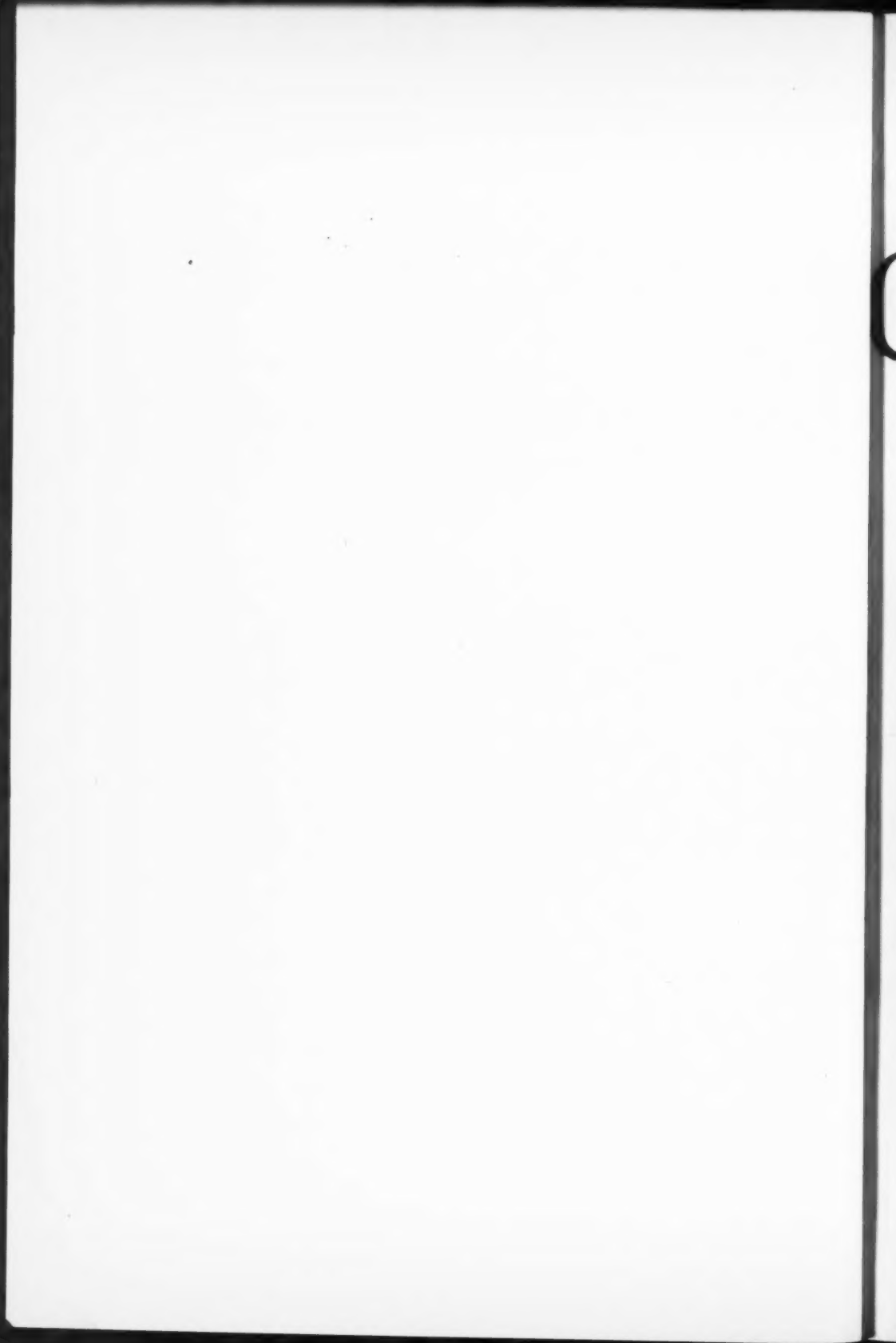
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Leading Articles

The International Postgraduate Medical Assembly

Reported by George B. Lake, M.D., Chicago

Progress in Otolaryngology

By William G. Symon, M.D., Garrett, Ind.

The Present Status of Surgery

By A. B. Constant, M.D., F.A.C.S., Santiago, Chile

Progress in Endocrinology

By Henry R. Harrower, M.D., Glendale, Calif.

Recent Advances in Pediatrics

By B. M. Gasul, M.D., Chicago

The Modern Treatment of Cancer of the Rectum

By A. Lawrence Abel, F.A.C.S., London, Eng.

Progress in Stomatology

By E. L. Jones, Jr., D.D.S., Albany, N. Y.

New Form of Hospital Protection Against Sickness Costs

By Frank Deacon, M.D., Chicago

What's New in Physical Therapy and Roentgenology

By Herbert G. Frankel, D.D.S., St. Louis, Mo.

Syphilis of the Retroperitoneal Glands Simulating

Kidney Tumor

By Winfield Scott Pugh, B.S., M.D., New York City

Editorials

Antonj von Leeuwenhoek

Culture on the Wing

The Vitamins

Progress in the Science and

Art of Medicine

Editors and Authors

Oral Versus Intravenous Cholecystography

In Angina Pectoris—

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ANTONJ VAN LEEUWENHOEK, F.R.S.

CLINICAL · MEDICINE AND · SURGERY

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NUMBER 1

Antonj van Leeuwenhoek (The First Microbiologist)

IT IS interesting (if not particularly profitable) to speculate as to the routes along which the development of medical science would have proceeded without the microscope; and it is of further interest to note that two of the men who did most to open the world of the infinitely small, for the benefit of Medicine (van Leeuwenhoek and Pasteur), were not, themselves, physicians.

This year (1932) is the three hundredth anniversary of the birth of Antonj (sometimes written "Antony" or, through a mistake, "Anton J.") van Leeuwenhoek, the grandson of Dutch brewers and the son of good, substantial burghers of Delft, Holland, who came, by reason of his scientific investigations, to be a Fellow of the Royal Society of London and a member of the French Academy of Sciences.

Antonj was left fatherless at an early age, but his family was not poor, so he was sent to school in another town until he was sixteen years old, and then went to Amsterdam, where he became, in turn, clerk, bookkeeper and cashier in a clothing store. After eight years of this he returned to Delft and was appointed an assistant to the sheriff—a sort of master

of ceremonies (Garrison calls him a "city-hall janitor"),—which position he held for thirty-nine years, at the munificent salary of \$130 a year. Fortunately for science he had other financial resources to fall back upon!

But these activities, by which he earned at least part of his daily bread, were the least important parts of van Leeuwenhoek's life. As a young man, he developed an intense interest and curiosity regarding natural history, which led him to spend his leisure hours with others who were similarly interested, of whom there were a good many at that time.

The compound microscope had been invented some years before Antonj's birth, and, as he grew older, these crude and imperfect instruments intrigued him. Being clever with his hands, he learned to grind lenses and began to build microscopes of his own, the later and more perfect of which were about twice as powerful as any theretofore produced. He made, in all, 247 of these instruments, containing 419 lenses, most of which he ground, himself, and kept the greater number of them for his own use, though he sent twenty-six to the Royal Society of London and

twenty-seven to the French Academy of Sciences.

Not content with making these complicated and delicate optical instruments, van Leeuwenhoek also began to use them to satisfy his curiosity regarding the world around him, and to such purpose that he began to discover things which no one had seen before. In 1674, a medical student in Leyden, named Hamen, called his attention to something moving under the lens, and he thereupon wrote the first description of a spermatozoon. The same year he gave the first complete account of the red blood corpuscles, though Malpighi had seen them earlier (1661) and thought they were fat droplets. He discovered the striations in the voluntary muscles, the capillary anastomosis between the arteries and veins (completing Harvey's demonstration) and the structure of the crystalline lens, and was the first to see protozoa under the microscope (1675).

On September 17, 1683, he presented an accurate description, with drawings, of bacilli, various types of cocci and spirilla; but left it for Pasteur to demonstrate the connection between these microorganisms and disease.

Van Leeuwenhoek was not a man of scholarly tastes nor great education, but he had an alert and inquiring mind and skillful hands, with sufficient income to live in comfort and ample leisure to pursue his hobby. He was not so great a microscopist as the slightly younger Malpighi, and he left us no formal books (though his letters and short communications numbered more than 400), but he was a pioneer, who observed without prejudice and recorded what he saw with accuracy.

A man of simple tastes, a placid mind, a good disposition and a rugged physique, he lived to the advanced age of ninety-one years and passed to his rest on August 26, 1723, in his native city, leaving the world a legacy of knowledge, of whose value he never even dreamed.

CULTURE ON THE WING

A DOZEN or twenty years ago (and, to some extent, even today), a man who spoke elegant English, kept his trousers pressed and manifested some knowledge of painting, sculpture, poetry and the other arts, was disdainfully called a "dude", a "highbrow" or some other term of intended opprobrium, by the horny-fisted and tobacco-chewing sons of toil and the "hard-headed business men," and could no more be elected to a political office than a camel can go through the knee of an idol.

Today, for many people, the press of exigent toil which was formerly needed to keep body and soul together has abated and they find themselves in possession of a certain amount of leisure—but with no idea whatever as to how it can be profitably used.

This reminds one of the story of the old Arizona prospector who, after spending most of his life in the mountains hunting for gold, finally found it and cleaned up a tidy fortune, whereupon he journeyed to the nearest city to "have a big time." In his new store clothes and hard-boiled shirt he sallied into a restaurant, but found most of the dishes on the menu wholly unfamiliar to him. He desired, however, that no one should doubt his ability to pay for the costliest of viands and so, gazing upward to the heights of his own limited gastronomic experience, he loudly demanded of the waiter, "Bring me forty dollars' worth of ham and eggs!"

"Culture," says Charles Gray Shaw, "is the awakening of one's consciousness to the meanings and value of a life habitually taken for granted." It may also be expressed as the instinctive appreciation of the things that are best and most worthy in all fields of activity.

Even today, few are able to devote their entire time to the acquirement and development of culture. Is it, then, denied

to the steadily increasing numbers of people who are daily recognizing the need of something to fill the hiatus which has been left when the waking hours are no longer filled with pressing duties?

By no means! The primary requisites for the acquirement of culture are a realization of its beauties and powers and a sincere desire to attain it. If these are present, the seeker can go far in this direction by utilizing the odd moments of each day, which otherwise would be wholly wasted. A small book of good poetry, essays or philosophy, carried in the pocket, will furnish pabulum for little cultural lunches while one is waiting for or riding upon trains or during the intervals when one might be tearing one's hair or biting one's nails until some tardy person deigns to keep an appointment. Thus equipped, one never loses one's equanimity when one must cool one's heels in an office, lobby or station.

When started upon this pathway, the earnest culture-seeker will soon find himself visiting art galleries, and hearing good concerts more frequently and with steadily increasing appreciation and enjoyment, and will also discover that many of the matters of his daily life are rich with significance which he had never before recognized.

Remember, too, how Dr. John A. Hartwell remarked, "A productive (creative) avocation is the hall-mark of the cultured man." *Everyone* can sing a little, draw a little, write a little (real literary stuff; not merely technical articles), play a little upon some musical instrument, make a really artistic photograph now and then, or do one or more of the hundreds of things which will furnish a satisfying outlet for the Cosmic Urge which lives in, and sometimes torments, us all.

Culture may be captured on the wing, so to speak, by the busy man who really wants it, by utilizing those tags and remnants of his days which now, too fre-

quently, go into the trash can of unprofitable and sometimes vicious "time-killing" or are swept up by the vacuum cleaner of empty idleness.

Culture is not an accident of birth, although our surroundings may advance or retard it; it is always a matter of individual education.—Hamilton W. Mabie.

The final conclusion is that we know very little, and yet it is astonishing that we know so much, and still more astonishing that so little knowledge can give us so much power.—Walter Grieson.

THE VITAMINS

SOME months ago we announced that a new periodical, the *Journal of Vitamins and Accessory Food Factors*, was soon to appear, but, due to unfavorable business conditions, the financial backers of that enterprise felt that the time was unpropitious for launching a new periodical and the publication of that journal is indefinitely postponed.

Realizing the great and growing importance of the vitamins in the problem of human physical welfare and that, of all men, physicians should keep abreast of the progress made along this line, we have arranged to take over most of the material which had been accepted for publication in the *Journal of Vitamins* (omitting only articles of a technical or non-clinical nature) and to give it to the readers of *CLINICAL MEDICINE AND SURGERY*, through these pages.

We are also in touch with the vitamin experts who were listed for the editorial staff of the "J. of V." and can secure authoritative answers to any questions which our readers care to ask about these important, but still more or less mysterious, factors in the human diet.

We hope you will watch for these articles and avail yourselves of the service we are offering. Also, watch the advertising pages for the messages which will come to you in that way.

In knowledge, that man only is to be condemned and despised who is not in a state of transition.—Michael Faraday.

Progress in the Science and Art of Medicine — 1931

ONCE more, at the beginning of another calendar year, it seems wise to look back over the rather immediate past, to refresh our minds as to what has taken place in the fields of medical science and art and to obtain a new and advanced point of vision, that we may observe the events of the immediate future intelligently.

It is, of course, impossible, in the space of a few hundred words, to sum up all the important things which have happened or been discovered, so this is merely one man's ideas as to the most important discoveries and advances during the past year, not necessarily arranged in the order of their relative importance. Moreover, even these matters can merely be mentioned, not dwelt upon, in order to bring the points to mind. If they do not come back at once, fuller information can readily be found, generally in the pages of this journal, but, if not, in those of other publications which are readily available to practically all physicians.

GENERAL RESEARCH

The attitude of the most advanced and forward-looking "orthodox" scientists toward the great problems of the universe and man's part in it has been changing for a number of years, but the changes have been more rapid and obvious rather lately. It is no longer accurate to speak of a "scientific materialist," for the great scientists, such as Eddington, Jeans, Einstein, Compton and such, no longer look upon the universe as a mere physico-chemical mechanism; and so the "hard-boiled" materialist can no longer appropriately call himself a modern scientist. The veil between the seen and the unseen is being steadily pushed back and we are beginning to study the nature and properties of those *intangible realities* which we call time and space.

All this may have little direct bearing upon the practice of medicine at the moment, but anything which alters the current of human thought and life has effects upon man's physical and mental health, and so is of moment to the physician. Read Grierson's little book, which is reviewed in this issue.

One of the recent announcements which may have far-reaching effects is contained in Dr. G. Billard's book, "**Phylaxis**" (also reviewed herein), in which he demonstrates that certain neurotoxins, like sparteine, barbiturates or the toxin of snake venom, have the power of so entering into the nerve tissues and "staining" them, that other similar substances can find no lodging place within them, and so no symptoms are produced.

The field of **immunology** has been so actively worked, with the production of so much new information, that the statement is made that Ehrlich's "side chain theory" of immunity is now entirely obsolete. The body tissues, especially the leukocytes and the histiocytes, are now considered more important, in this connection, than the fluids. The old idea of miasmatic gases is being revived, and proof is advanced that the protein-free distillates of bacteria and certain volatile amines are specifically antigenic.

Along another and more specific line, it now seems possible that *Spirochaeta pallida*, of the so-called dermatotropic type, can be changed to the neurotropic variety by growing it in a culture medium containing brain substance. It appears, moreover, that the virus of poliomyelitis, when adsorbed on aluminum hydroxide, is incapable of producing the disease, but will induce active immunity in monkeys.

These few straws indicate that a wind may be rising which will blow away many of our long-held ideas regarding the na-

ture of disease and human resistance to it.

The idea that **birth control** may be achieved by *biologic methods* has received considerable support during the past year from the observed fact that injections of certain preparations of the female sex hormone, and also vaginal submucous injections of suspensions of spermatic fluid, are able to cause sterility in animals. Some experiments of similar import have also been made upon human beings.

The bacteriophage, which caused a good deal of excitement several years ago, is coming in for more study again, after a period of obscurity; and the (perhaps) somewhat similar antiviruses are arousing increasing interest.

In connection with the newer ideas of immunity, the reactions of the skin are being studied, and prophylaxis and treatment are being carried out by means of **intra-dermal injections and inunctions**. The antiviruses and similar products are being used intra-dermally in treatment; typhoid prophylaxis is being accomplished, with little or no systemic disturbance, by means of intra-dermal injections; Lowenstein's ointment (while inferior, in power and certainty, to toxoid) is gaining favor for diphtheria prophylaxis in selected cases; and it is now reported that a similar ointment has been prepared for typhoid prophylaxis. In the campaign against diphtheria, toxoid is rapidly supplanting toxin-antitoxin.

According to the allergists (and there seems to be logic in their contentions), the field of **allergy** is being greatly enlarged, so that it now includes such diverse maladies as eczema and migraine. The mind should be kept open along this line, avoiding overenthusiastic acceptance as well as hidebound skepticism.

The study of **vitamins** is enlisting the efforts of many keen workers. Having proceeded far with vitamin D, so that it is now recognized as viosterol, attention

has been turned, especially, to vitamin A, which is now generally conceded as exerting a powerful effect in increasing the body's resistance to infectious diseases. It is now believed that **carotene** is the vegetable precursor of vitamin A in animals, and efforts are being made to utilize this knowledge clinically to the best advantage.

Efforts to perfect cod-liver oil and to discover equally effective sources of vitamins A and D are going on steadily. Progress seems to be made in the cod-liver concentrates and other sources of these vitamins in tablet form which, so far, have been relatively unstable and costly.

Agranulocytosis, now that it is more generally recognized, has been removed from the class of rare diseases, and 334 cases have been collected and studied, showing that 78 percent of the cases occur in patients between twenty and sixty years old; it is twice as common in women as in men; the average mortality is about 75 percent; and that several 1/20 erythema doses of x-rays, given over the long bones, will reduce the mortality to about 50 percent.

Another development of the year which bids fair to produce good results in several directions is the establishment, by the American Medical Association, of a Committee on Foods, to function in a manner similar to the Councils on Pharmacy and Chemistry and on Physical Therapy.

ENDOCRINOLOGY

More progress has been made in endocrinology during the past year than in almost any other field of Medicine. Objective laboratory results are appearing, to back up the practical results long known to clinicians.

The field of the hormones controlling sex functions has been especially well worked and the present status of that department of knowledge is well summed up by Dr. Harrower, on another page.

One of the most significant reports is that of Susman, regarding the possible

part played by the **pituitary** in the etiology of cancer. An abstract of that report will be found in this issue. Bengston's report (also abstracted) on pituitary treatment of alopecia also caused some excitement, which seems to be dying down.

Insulin is now being used in other conditions than diabetes—notably in malnutrition—and substitutes for insulin, suitable for oral administration, are being sought. Among these, the juice of fresh liver has given some results, and so have preparations of the pancreas in tablet form—though these latter are not so new.

Adrenal cortex preparations (**Cortin**) are finding a number of uses in deficiencies of those glands, though they have not proved to be specific in the treatment of cancer.

DIAGNOSIS

The **Aschheim-Zondek test** for pregnancy has been modified and simplified by several workers, so that it can now be performed in twenty-four hours, with the sacrifice of one rabbit.

A complement fixation test for *amebiasis* has been devised.

Several workers have emphasized the advantages of obtaining cerebrospinal fluid by puncture of the *cisterna magna*, rather than of the spinal canal.

Bendien, of Utrecht, Holland, has reported a method for diagnosing cancer in its very early stages, by means of blood serum flocculation tests and spectrograms. This is still in the experimental stage and has not yet been confirmed by others.

Excretion pyelography is making sound progress and is being more widely used. Perhaps we shall soon find a way of giving Skiodan or Uroselectan by mouth, as we now give Cholecystocol for the Graham test.

The huge, million-volt x-ray tube, now installed at Memorial Hospital, New York, will probably be used exclusively for treatment rather than for diagnosis. Interesting

developments should occur when the powers and possibilities of this apparatus are understood.

THERAPEUTICS

Perhaps the outstanding therapeutic advance during the year has been the wide and growing application of **preanesthetic medication** with drugs of the barbituric acid series, of which pentobarbital-sodium (**Nembutal**) is believed by many to be the most satisfactory representative, though Sodium-Amytal is widely used.

The employment of carbon dioxide and pyretotherapy for the relief of catatonic stupor has been a rather spectacular recent development.

The importance and field of usefulness of **therapeutic fever** are growing steadily and, in view of the obvious drawbacks of treatment with malaria or intravenous injections of foreign proteins, the search for other methods goes on. Diathermy has gained ground for this purpose; and now intramuscular injections of **sulphur in oil** are producing interesting results in this line.

The treatment of osteomyelitis by the use of fly larvae (**maggots**), according to the suggestion of Baer, is now generally recognized and standardized and is being made available commercially.

The treatment of **peptic ulcer** by the administration of specially prepared **mucin**, as proposed by Fogelson, is showing decidedly encouraging results. We hope to publish an article on this subject ere long.

The use of **calcium preparations**—especially the gluconate—parenterally and by mouth, in the treatment of inflammatory conditions, especially those of the skin and genito-urinary organs, offers interesting possibilities.

Luetin, formerly used in the diagnosis of syphilis, especially the latent type, is now receiving more well-merited attention for this purpose, and is also being used as a *vaccine treatment* of that disease.

Among the newer remedies offered to the profession, two purified and improved preparations of ergot—**Neo-Ergot** and **Gynergen** (ergotamine tartrate) are prominent. **Nupercaine**, a local anesthetic, more toxic than cocaine but much more powerful, is being reported upon favorably, especially in Europe. A preparation of **ethyl iodide**, for the administration of iodine by inhalation for the treatment of skin diseases and other conditions, may or may not prove to be important. An extract of various strains of trichophyton, under the name of **Tricophytin**, is being offered for the diagnosis and treatment of trichophytosis. The powerful germicide, **Meta-phen**, is now available in the form of a tincture and, in combination with ephe-drine, as an inhalant. Hexylresorcinol is being recommended for the treatment of infestations with ascaris and hookworms. The use of **Felton's serum** may now be considered standard practice in Type I pneumonia and, to a less extent, in Type II. A line of candy medicaments for children ("Dulcets") has recently been offered.

EDUCATION AND ECONOMICS

The general financial depression is complicating the already rather unsatisfactory position of the medical profession and will, perhaps, expedite the discovery of methods which will improve matters.

The development of **acceptance companies**, for the financing of medical and surgical fees on the instalment plan, is making strong and deserved headway. Advertising of an impersonal type is gaining ground. Hospitals are seeking ways of making their services available on a more equitable basis. There is great and growing need for the teaching of economics (and also of birth control) in our medical colleges.

Still and motion-picture photography marches steadily forward as a means of professional education, and new and improved apparatus is constantly appearing, with sound attachments in many cases.

The **Scialyscope**—of which only one or two are installed in this country—is an adjunct to the teaching of operative surgery which deserves far wider use.

We await with eagerness the outcome of the curriculum revisions at the University of Chicago and other institutions. Some new things *must* emerge.

The first work of the knower is to observe.—Annie Besant.

EDITORS AND AUTHORS

THE PRESS has long been alluded to, flamboyantly perhaps, as "the palladium of our liberties," but there is enough merit in such a characterization to excuse the oratorical and rhetorical license. Were it not for the Press—and the Medical Press is a part of the whole structure—our vaunted civilization of today would not be.

Few physicians have ever taken the time to think how different the modern practice of medicine would be without the medical journals, by means of which the results of scientific researches and discoveries are communicated to the clinicians, and those of the clinical researchers to such of their confreres as are constantly applying the new and new-old ideas to the relief of sick and suffering human beings.

Fewer still have any idea of the amount of mental and physical labor which is involved in giving birth to each issue of the periodicals which they scan so lightly or study so assiduously, as the case may be. And without contributors, the medical journals, of course, would be impossible.

It seems fairly obvious, therefore, that any movement which aims to hold up the hands of the medical editors, and assist medical authors to express their ideas more accurately, clearly and elegantly, is worthy of the support of all who have the welfare and progress of the medical profession at heart.

There are, perhaps, too many medical societies of various sorts, springing up like mushrooms of late, whose functions, to some extent, overlap one another — and

perhaps not. It sometimes seems that there are good reasons for most of the groups about which one hears.

But, in any case, the American Medical Editors' and Authors' Association is no mushroom growth, having been visioned as a necessity for the healthy development of the profession by the same keen and far-seeing mind which fathered the American Medical Association—Dr. Nathan S. Davis, who was its first president—and founded as long ago as 1869, which makes it one of the oldest medical organizations in the country. The list of its past presidents is practically a roster of the makers of the medical history of this country for the past sixty years. It ceased to function actively for a time, but the need for the services it is peculiarly fitted to render led to its reestablishment as a going concern some three or four years ago, and it is now functioning with all its long and worthy traditions behind it.

The Association offers an opportunity for the medical editors of the United States to discuss their problems and assist each other with advice and suggestions, as well as to bring these problems to the attention of medical authors and enlist their cooperation in solving them. In this connection, committees of the Association are studying methods for standardizing medical education and licensure, the effects of free and pay clinics, the methods of laboratories and pharmaceutical manufacturers and the vexing questions of medical economics and publicity. The results of

these studies should be decidedly helpful to editors in shaping their policy and procedure along these lines.

To help the medical writers whose work is sufficient, in quality and quantity, to warrant their election to membership (for, while every scribbler of a published "re-hash" may apply for membership, only those who are in good professional standing—practically all medical members are members of the American Medical Association—and can show that their work is able and extensive enough to qualify them as real *authors*, of some originality of thought and style, are accepted), the Association offers, through its organ, *The Medical Mentor*, articles by editors and seasoned writers, discussing questions of timeliness, style and technic in writing, as well as much other material of interest and value.

Under the reorganization of the Association, the business managers of medical journals are also eligible to membership; and this is well, for no publication can long carry on a useful existence unless there is understanding cooperation between the editorial and business offices, such as is fostered by the contacts made in an organization like this.

A group of this sort has vast potentialities for good and deserves the enthusiastic support of the entire profession; and those whose connections or contributions to the periodical literature entitle them to that honor should seek to be numbered in its ranks.



LEADING · ARTICLES

The International Postgraduate Medical Assembly

Reported by George B. Lake, M.D., Chicago

THE great intellectual filling station for medical men, known as the annual International Assembly of the Interstate Postgraduate Medical Association of North America, was in operation at Milwaukee, Wis., the latter part of October, and provided a supply of mental fuel to keep the attendants running for another 365 days, if the offerings were properly assimilated and utilized.

The international character of the Assembly was not so prominent as it has sometimes been, but one keen and engaging personality from England (Mr.

A. L. Abel) and several erudite men from Canada were among the speakers, about four-fifths of whom were college professors or other professional teachers, making this a real school, not a debating society. Moreover, the sessions were not quite so "snappy" as usual, because they included a rather unduly high percentage of cut-and-dried research reports, with tiresome and somnifacient lantern-slide exhibitions of tables of statistics (very necessary in the literature, for reference, but out of place on the platform). Nevertheless, the approximately 2,500 physicians, who were in attendance from half past seven in the morning until ten o'clock at night, received big value for their expenditure of time and money.

During four of the five days of the Assembly, the weather was astonishingly perfect, considering the time of year, so that the attendants had an opportunity to enjoy the attractions of the interesting

and friendly city of Milwaukee. Moreover, the auditorium where the meeting was held is large, commodious, well-managed and excellently adapted to this purpose. One wonders why more medical conventions are not held there.

Those who enjoy German cooking had a splendid opportunity to ride that hobby. No bill of fare in this city omits sauerkraut.

At the business session, Dr. A. D. Bevan, of Chicago, was installed as president and Dr. William J. Mayo, Rochester, Minn., was chosen as president-elect. Dr.

Wm. B. Peck, Freeport, Ill., and Dr. George V. I. Brown, Milwaukee, remain as managing-director and speaker of the Assembly respectively, as a matter of course. The place of next year's meeting will be Indianapolis, Ind., and the time, October 24 to 28, inclusive.

THE EXHIBITS

The scientific exhibit, while, of course, far smaller than that at the A.M.A. meetings, was more extensive and interesting than usual. A number of highly instructive moving pictures were shown in both the scientific and commercial sections of the exhibit, and constitute an increasingly important part of this and other medical meetings.

The U. S. Public Health Service's exhibit included a rather striking object lesson in proper and improper methods of room lighting. E. L. Miloslavich, of St. Joseph's Hospital, Milwaukee, presented



Municipal Auditorium, Milwaukee, Wis.



Fig. 1.—The Siebrandt Pivoted Leg Splint. Courtesy, J. R. Siebrandt Mfg. Co.

a decidedly unusual demonstration of medico-legal pathology, showing wounds of various kinds, produced with criminal intent or by accident. The Milwaukee Orthopedic Club put on a good show of modern methods of applying traction in the treatment of fractures and of other orthopedic procedures. There were two or three exhibits of the methods and results of plastic repair of disfigured faces. These are only a few of the high-lights of this part of the exhibition.

One large booth—that of the Clay-Adams Co.—fell on the borderline between scientific and commercial, with its display of anatomic preparations and models and of obstetric phantoms, for teaching purposes.

The commercial exhibit was a big and instructive one and included a number of new things not shown before.

Patients with fractures of the leg bones ought to be grateful if they can be treated on the Siebrandt pivoted leg splint, which allows them a freedom of movement hitherto unknown, with complete safety. (See Fig. 1).

The Gilbert electric humidifier looks like a practical and satisfactory mechanical device for keeping the humidity of indoor air at a healthful level, without depending upon saucepans on the radiators. The cost is not prohibitively high. (See Fig. 2).

The Bard-Parker people, who have long been manufacturing a line of surgical knives with interchangeable sharp blades, have now worked out a plan for renewing

the cutting edges on scissors in a similar manner—a very ingenious arrangement! They are also marketing a full line of forceps with the Lahey lock, which does not get wobbly, and a solution for sterilizing instruments.

A simple and clever device for keeping intravenous transfusions and infusions at the proper temperature, by means of a jacketing hot-water container, was demonstrated by Will Ross, Inc., Milwaukee. (See Fig. 3).

Will Cameron is replacing all metal specula on his well-known electric-lighted diagnostic instruments with similarly-shaped attachments made of a special type of bakelite reinforced with silk, known as "Surgimold," which has a number of advantages. He also showed several new and improved instruments.

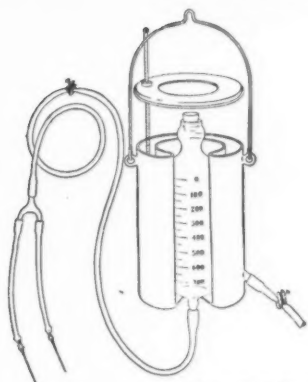
In September, 1931, the American Hospital Association, in conjunction with the U. S. Bureau of Standards, adopted a standardized list of 22 sizes and shapes of surgical dressings for general use. Johnson and Johnson showed examples of these standard dressings, which they will manufacture

and market.

Here, again, I have space to mention only a few of the newest things shown. There were so many valuable and instructive booths in the commercial exhibit that any physician who spent a number of hours in studying them seriously, got the full value of the cost of his trip, if he took in no other part of the meeting.



Fig. 2.—The Gilbert Electric Room Humidifier. Courtesy, A. C. Gilbert Co.



Courtesy, Will Ross, Inc.

Fig. 3.—Hot-Water Jacket for Intravenous Work.

ABSTRACTS OF SOME OF THE PAPERS AND CLINICS

AYERZA'S SYNDROME (Black Cardiac Patients)

By Wm. S. McCann, M.D.,
Rochester, N. Y.

Prof. of Med., Univ. of Rochester,
School of Med.

Ayerza, who was professor of medicine at Buenos Aires, Argentine, described, in 1901, what he called "*cardiacos negros*" (black heart patients). The condition which is fairly common in Latin-America, is due to pulmonary emphysema, with fibrosis and sclerosis of the pulmonary arteries, and is characterized by deep cyanosis, dyspnea, cough, epigastric pain, hemoptysis and sometimes polycythemia. The mucous membranes are purplish and have a velvety appearance; the fingers, especially the fourth digit are frequently clubbed; edema of the ankles, pulmonary emphysema of severe degree and hypertrophy and dilatation of the right heart appear later. These patients often die in their sleep.

Ayerza's syndrome is sometimes called "syphilis of the lung with pulmonary arteritis," or "emphysema heart," but it is more than these and is not always syphilitic.

In a typical case the hemoglobin was 110 percent, and the erythrocyte count 6,100,000. Other cases have shown the red cells running up to as many as 10,000,000.

In treatment, the chief indication is to combat anoxemia. This is best done by administering oxygen in a tent. These patients

should be carefully guarded from respiratory infections, which they bear poorly.

CIRCULATORY FAILURE IN ACUTE INFECTIOUS DISEASES

By Chas. A. Elliott, M.D., Chicago, Ill.
Prof. of Med., Northwestern Univ.
Med. School

When circulatory failure occurs in acute infectious diseases like pneumonia, the common practice is to give heart stimulants — strychnine, digitalis, oxygen, etc. The results of such treatment are doubtful.

While myocardial changes, infarcts and hyaline degeneration of the heart muscle are common in infectious diseases, the peripheral vascular tone, water balance and temperature are of equal or greater importance. The condition of the vascular blood-bed is changed, with slowing of the current almost to stasis, which throws more work on the heart. Failure is due to an unbalanced distribution of blood, and the best way to treat it is to anticipate it from the start and use measures to prevent it.

In these cases there is a condition of *surgical shock*, with symptoms much like those following the intravenous injection of histamin or peptone, but this condition has a much wider field of harm—toxemia, disturbed metabolism, etc. The symptoms are quite different from those of congestive heart failure and consist of sudden collapse; cold, clammy skin; feeble, thready pulse, etc. Cardiac stimulants are of no value at this time.

Malnutrition, especially from lack of carbohydrates, is a large factor in this type of circulatory failure, and dextrose should be given freely to all patients with acute infectious diseases.

Pericarditis with effusion (which should be carefully watched for) is not uncommon and, with dilation of the stomach, may be a predisposing factor in failure.

Treatment in these cases consists of early diagnosis; early administration of antitoxins; combating high fever and toxemia, by giving much water, based on the index of water metabolism, and by other measures; and keeping up the resistance by readily assimilated foods, such as dextrose.

Watch for early symptoms of heart failure and take all measures to prevent it. Rest is highly important during the acute

stage of the infections and in convalescence, to permit restitution of damaged structures. Relieve effusions. Use venesection in selected cases.

Digitalis is of little value in the presence of fever, being useful only in congestive heart failure, with rapid and irregular pulse and dyspnea, but when indicated should be given in sufficient dosage to produce pharmacologic effects (digitalization and no more). Watch for symptoms of poisoning. Never give *digitalis* to patients with a slow pulse, heart-block or diphtheria.

When indicated, give morphine, pituitrin or quinidine, in the presence of fever.

CHRONIC ARTHRITIS AS AN ECONOMIC PROBLEM

By Robt. B. Osgood, M.D., Boston, Mass.
Emeritus Prof. of Orthopedic Surgery,
Harvard Univ. Med. School

The largest factor in poverty is chronic disease; and chronic arthritis is one of the most disabling diseases. The patients live for years, in a more or less helpless condition.

The public is losing faith in the ability of the medical profession to deal with arthritis and is turning to quacks. We do not take rheumatic diseases seriously enough.

The cause of arthritis is one or more of the following conditions:

- 1.—Heredity.
- 2.—Disproportion between the mental and physical equipment—*worry*.
- 3.—Lowered general resistance.
- 4.—Faulty body mechanics.
- 5.—Vasomotor disturbances.
- 6.—Faulty dietary and living habits.
- 7.—Endocrine disorders (perhaps).
- 8.—Allergic conditions (perhaps).

We must learn to recognize the prodromes and early signs and *begin treatment early and intelligently*, the same as we do in tuberculosis, by raising the patient's resistance and putting him in a sanatorium for a year or more. We need more hospital facilities for this type of patients. Why should we not have state hospitals for patients with arthritis, as we have for those with tuberculosis?

If treated *early and properly*, this disease can be arrested, if treated *long enough* and if the patient will cooperate by arranging his life to meet the conditions.

POLLEN ALLERGY

By Warren T. Vaughan, M.D.,
Richmond, Va.

Two to four percent of the population suffer from hay-fever or asthma or both, so all physicians are interested in this subject.

Properly applied pollen therapy will relieve two-thirds of these patients completely; and ninety percent will be relieved enough to satisfy them.

Always use the arm for diagnostic skin tests, so that, if general reactions appear, they can be controlled by a tourniquet. Make the scratches 1½ inches apart. If the result is negative, in a suspicious case, try again. If still negative (and then only) use the ophthalmic test.

Do not desensitize the patient to all pollens that react positively; only to those which show clinical correlation.

Use a potent antigen and use enough, if complete results are to be obtained. The fifteen-dose series is frequently *not* enough, as the top dose is only 3,000 pollen units, while the patient may require a top dose of 20,000 units. The best unit is the amount of antigen obtained from 1/100,000,000 gram of pollen. In a 2-percent solution, 100 cc. will contain 2,000,000 units, and 1 cc., 20,000 units.

It is well to use an ophthalmo-reaction with a 1:200 solution of pollen to test desensitization.

Keep pollen graphs from year to year and take the mean of several years to adjust coseasonal dosage, as the treatment needed will be based upon the amount of pollen present in the air.

LARYNGITIS

By Fielding O. Lewis, M.D.,
Philadelphia, Pa.

Prof. of Laryngology, Jefferson Med.
College

Many erroneous diagnoses of laryngitis are made in cases of serious diseases, resulting, at times, in needless loss of life. Direct or indirect laryngoscopy should be performed in all cases where laryngeal disease is suspected. In children we must exclude diphtheria, the exanthems and retropharyngeal infection.

Laryngitis is most common in those who suffer from nasal and paranasal disease, adenoids and infected tonsils; also in those

who use the voice much and incorrectly (outdoor speakers and singers). It may be due to acute infections, like "colds." The symptoms, in addition to hoarseness, will correspond to the underlying condition. The patient may be decidedly ill.

Never make a diagnosis of laryngitis on the basis of subjective symptoms alone. If hoarseness lasts more than two weeks the condition may be due to syphilis or tuberculosis and a complete examination should be made immediately.

There is no specific treatment of laryngitis. Find the cause and treat it. The chronic catarrhal laryngitis of those who abuse the voice (characterized by hoarseness without constitutional symptoms) is hard to treat and requires the complete cooperation of the patient, including rest of the voice and the elimination of tobacco and alcohol. "Alteratives," iodides, bromides and phosphorus preparations have a place in the treatment.

MALIGNANT DISEASE IN CHILDREN

By H. F. Helmholtz, M.D.,
Rochester, Minn.

Prof. of Pediatrics, Univ. of Minn.,
Grad. School of Med.

Malignant disease is not uncommon in children, and is usually of the sarcomatous type, chiefly affecting the central nervous system, bones, cartilages and lymphatic tissues—lymphosarcoma, Hodgkin's disease and lymphatic leukemia. Radium and x-rays are of little value in these cases.

The diagnosis is usually made late, when it should be made early. Most of the cases I have seen have been treated for from two months to a year for "gastroenteritis," "intestinal flu," etc. A number had undergone appendectomy or some other operation, and the diagnosis was made only when paralysis developed.

In cases involving the central nervous system, headache is present in 81, nausea and vomiting in 84 and difficulty in walking in 50 percent of cases. When a child has headache, with nausea and vomiting daily or almost daily, not yielding to ordinary treatment after a period of two weeks, suspect brain tumor and investigate, even when difficulty of locomotion is absent.

If seen in the early stages, surgical treatment, by a thoroughly competent man, will relieve or cure many of these patients.

TUMORS OF THE SPINE AND CORD

By Chas. H. Frazier, M.D.,
Philadelphia, Pa.

J. R. Barton Prof. of Surg., Univ. of Pa.
School of Med.

In considering tumors of the spine and spinal cord we must ask ourselves, "Is there a surgical lesion or not? If so, where is it?" We must visualize the anatomy of the spine and cord.

These tumors may be benign or malignant—osteoma, enchondroma or sarcoma. Sarcoma generally begins peripherally and severe pain, exaggerated by slight movement, is an early symptom.

Metastatic carcinoma of the spine is not rare. In these cases, pain in the legs will require morphine for its relief. Look for a history of carcinoma of the breast or pelvis (in women) or of the stomach or prostate (in men). A good roentgenologist can make the diagnosis. Prostatic carcinoma is often diagnosed by finding metastases in the bones. Sarcomas and carcinomas of this type are not subject to operative removal. To relieve the terrible pain which is frequently present, cut the posterior nerve roots involved or do an antero-lateral cordotomy.

Tumors of the cord may be intra- or extramedullary, the latter being more common and more easily removed. Intramedullary tumors are commonly gliomas or tuberculomas or such non-surgical lesions as multiple or lateral sclerosis, syringomyelia and transverse myelitis due to syphilis.

The common extra-medullary tumor is an endothelioma, arising from the arachnoid. The common picture is root-cycle pain, which never changes its location, with paresthesias; unilateral symptoms; or (when the tumor is large) a complete transverse lesion. If the pain is over some commonly-suspected area, the patient is frequently operated upon for something else—gall-bladder disease or appendicitis—or treated for sciatica.

There is little or no excuse for such a mistake, as it is easier to examine the nervous system than the chest and any practitioner can do it, referring the patient to a neurologist if necessary. Look for muscle atrophy, weakness, reflexes (present, absent or exaggerated), sensory disturbances of all kinds and vasomotor reactions. Test the tension of the spinal fluid and make a cell count and protein test on the

fluid. If the tumor blocks the spinal canal, pressure on the jugular veins will cause a marked rise in the manometric pressure, or none. Inject campidol into the spinal canal and localize the obstruction with the fluoroscope.

The results of operation in early endo-thelioma are very good; it does not recur, but improvement does not appear until after weeks or months. In hemangiomas the results are not so good. Use x-rays after operation. Gliomas cannot be removed surgically, but relief often follows a decompression operation.

GLANDULAR SWELLINGS OF THE NECK

By Edmund M. Eberts, M.D.,
Montreal, Can.

Prof. of Surgery, McGill Univ.
Faculty of Medicine

Glandular swellings of the neck may be due to tuberculous cervical adenitis or lymphosarcoma.

In tuberculous disease the glands involved are in the anterior triangle and beneath the angle of the mandible, when drainage is from the faucial tonsils. The adenoids drain into the posterior glands, below the sterno-cleido-mastoid muscle.

In these cases the course is chronic, resulting in fibrosis or caseation. Matted glands in the posterior triangle may be metastatic carcinoma; but tuberculosis may simulate any glandular enlargement in the neck, or even thyroiditis or thyroglossal cysts.

The disease is most common in children, following acute infections, especially measles and whooping cough. Convalescence is slow, with lassitude and sweating. The family physician is loath to make a diagnosis of tuberculosis, and under local and general treatment the swelling often subsides—but it recurs. We occasionally see a fulminating type, due to the bovine tubercle bacillus, which ends in miliary infection and death.

In middle-aged patients we sometimes see one, two or three enlarged glands, hard, fibrotic and freely movable, developing slowly and resembling lymphosarcoma, which recur after removal. The course is slow but pernicious; yet general measures and repeated excision often produce a cure. In old age the condition is often fatal.

Treat children by general measures to build up the resistance—sunlight (or ultra-

violet irradiations), good food and rest. If the condition is progressive, remove the glands by clean dissection, rather than making repeated incisions after softening. Miliary infection may occur following erosion of the jugular vein.

To heal postoperative sinuses, curet repeatedly, leave off all dressings and expose the patient to sunlight, local and general.

Before we can do a great deal for the malignant lymphomas—Hodgkin's disease and lymphosarcoma—we must know more about cancer and the leukemias. When Hodgkin's disease bursts the capsules of the glands and metastasizes, it is called Hodgkin's sarcoma. These cases run a long, chronic course, with late remittent fever and cutaneous changes—eczema or granulomas. If treated early, with intensive x-ray irradiations, life may be prolonged.

MINOR NEUROSES AND PSYCHOSES

By Louis J. Karnosh, M.D., Cleveland, O.
Asst. Clin. Prof. of Nervous Dis., Western
Reserve Univ. School of Med.

The physical status and condition of all psychic patients should be studied carefully.

Young people are microslanchic and exhibit instability and hypoactivity of the sympathetic nervous system. They are hypochondriac, conscientious, preoccupied with self and tend to avoid social contacts and to show symptoms of schizophrenia. In fact, all hypochondriacs, of whatever age, are tall, lanky people; and so are most of those with mucous colitis.

As people grow older they become stockier and the type of the neuroses from which they suffer changes to the vagotonic, hypervegetative variety. In the forties and fifties, people tend to show anxiety and compulsion neuroses of a cyclic pattern, with suicidal tendencies.

It will thus be seen that we have a physical basis upon which to study psychic disturbances. These various types and changes, superimposed upon a sensitized organism, give rise to the "nervous breakdowns," at all ages.

The sensitization is the result of the suppression of emotional states and the repression of unpleasant memories, and it is now seen that this stifling of expression is able to produce demonstrable physical lesions (as in hyperthyroidism), so that they are no longer properly called functional diseases.

The endocrines are intimately tied up with these conditions, the degree of endocrine damage being proportional to the degree of emotional repression. The possible field of usefulness of endocrine therapy in psychiatry is just opening before us.

In this connection, some form of modified psychoanalysis acts as a definite, physical desensitizing agent, by eliciting the repressed complexes, explaining them and their results to the patient and assisting him to bring them into consciousness and face them.

The time has come when we can, to some degree, remove psychiatry from the realm of metaphysics and deal with it as an objective art and science.

DIAGNOSIS AND TREATMENT OF PNEUMONIA

By Russell L. Cecil, M.D., *New York City Asst. Prof. of Clin. Med., Cornell Univ. Med. College*

It is entirely possible to make an early diagnosis of pneumonia on the basis of the history and physical signs. It is not necessary to wait for consolidation to develop in order to make a diagnosis.

If the symptoms are atypical but suspicious, use the fluoroscope or make a roentgenogram; also make cultures, from the mouth, throat, sputum and blood, for pneumococci (these organisms are not, as a rule, present in normal mouths) and, if found, have them typed. This last procedure, if available, assists in the prognosis and permits the intelligent use of serums. More than twenty new types of pneumococci, formerly grouped under Type IV, have recently been differentiated.

The newer treatment includes proper stimulation, oxygen therapy and serum therapy.

The death rate is higher when digitalis is used routinely. Caffeine and epinephrin are better stimulants than strychnine and camphor.

The tent method is the best and most popular arrangement for using oxygen.

Felton's concentrated and purified serum is ten times as strong as the older serums and gives good results in Types I and II, especially the former. Inquire about previous serum reactions or injections. If the answers are inconclusive, make an opthalmic test with 1:10 normal horse serum. If this test is negative, give the serum intravenously — but have a syringe of

epinephrin solution at hand. Begin with 5 cc. and give from three to five injections during the first day; one or two less the second; after that, as indicated.

TREATMENT OF UNUNITED FRACTURES

By Edwin W. Ryerson, Chicago, Ill.
Prof. of Orthopedic Surg., Northwestern Univ. Medical School

Even well-handled fractures of long bones (especially those of the tibia in young children) sometimes fail to unite. It is better to carry these little patients along in braces until puberty, when the bones often unite spontaneously.

Malunion sometimes occurs in adults, especially in the bones of the forearm, even after wiring the fragments. All wiring is poor surgery, but if it is done, iron stove wire is better than silver.

Lane plates are useless in the treatment of ununited fractures, and beef bone is little or no better. Even autogenous inlays and intramedullary splints sometimes fail. We sometimes have to try several methods, and there is often no logical reason why one method fails and another succeeds.

In pegging the neck of the femur, go in below the trochanter and up into the head at an angle of forty-five degrees.

TREATMENT OF FRACTURES

By Melvin S. Henderson, M.D.,
Rochester, Minn.
Prof. of Orthopedic Surg., Univ. of Minn. Grad. School of Med.

Half a million fractures of bones occur in the United States every year. The responsibility for their treatment is heavy. Every fracture should be considered as a potential deformity, and this outcome guarded against. Never overlook the clinical examination, but also have an x-ray film made, before and after treatment, as a record. Do not fall into routine methods.

The four steps in the treatment of a fracture, in their order are:

- 1.—Reduction.
- 2.—Retention.
- 3.—Mobility.
- 4.—Function.

The sooner the fracture is reduced the better. Consider the advisability of open operation and, if this is decided upon, use a general anesthetic if a good anes-

thetist is available, as the muscles are heavy and need to be relaxed.

Traction is generally necessary in reducing fractures and, if apparatus is used, it must be constantly watched and kept in proper condition.

Splints (plaster is best) are for retention only; never for correction. If ischemia develops, forget the fracture, for the time, and restore the circulation.

Motion of the neighboring joints should be begun at the earliest safe moment, remembering that guided and assisted active motion is better than passive, and that vigorous passive motion is never necessary.

Be careful about permitting a limb to resume its function, even after there has been a good deal of motion. This is especially important in leg fractures, which should be protected by braces for several weeks after the patient begins to walk.

If we consider the ankle as having three malleoli — internal, external and posterior — and watch all three, fewer fractures of the ankle will be missed.

BASAL METABOLISM

By James H. Means, M.D., Boston, Mass.

Jackson Prof. of Clin. Med., Harvard Univ. Med. School

We have been making basal metabolism tests since 1913, but they are still poorly understood. The basal metabolic rate alone, at any particular time, has little more significance than the pulse rate under similar circumstances. There is no sharp line between normal and abnormal in any physiologic function—merely an approximation of the usual figures for the patient's age, weight and sex.

It makes no difference what standard is used, but use the same one always. In reporting results, say above or below standard, not "normal." Individuals vary! "Above standard" less than ten percent usually means nothing; but the patient's normal may be twenty percent below standard.

It is difficult to obtain a true "basal" rate because many factors, including emotional ones, tend to raise the reading. High first tests are almost the rule, but they drop with repetition. When repeated tests show fifteen percent above standard, something is wrong. Fever will raise the rate seven points for every degree above normal. If the rate is twenty percent above

standard or more, the condition is generally thyrotoxicosis, but may be leukemia, hyperadrenalism or pernicious anemia.

It is a good idea to study the trend of the basal metabolic rate from day to day and from week to week. Single tests on patients suspected of hyperthyroidism, showing a standard rate, practically rule that condition out; but a single high reading does not rule it in. Take more, until a level is reached.

In myxedema the basal metabolic rate is thirty to forty percent below standard; but such a finding must be correlated with the clinical picture. This condition can be diagnosed and treated without basal metabolic tests as well as with them. Our object is to relieve the patient of his symptoms, rather than to raise his basal metabolic rate.

In Addison's disease, hypopituitarism, Froelich's syndrome and psychoses, the basal rate will be about twenty percent below standard. Certain individuals may be in perfect health with a low rate; but psychoneurotic patients with a low rate generally feel better when taking thyroid.

Habitual aborters with a low B.M.R. may do well on thyroid; and thin, peopless individuals with a low rate may gain weight on the same medication. Starvation alone will reduce the B.M.R. considerably.

Some patients with a low rate and no symptoms of myxedema are developing that condition slowly.

Exophthalmic goiter patients, with a low B.M.R. after thyroidectomy, should use thyroid, but should discontinue it from time to time, to see if they are improving. We should treat the patient; not the basal metabolic rate.

DENERVATION OF THE ADRENAL GLANDS IN NEUROCIRCULATORY ASTHENIA

By George W. Crile, M.D., Cleveland, O.

Prof. Emeritus of Surg., Western Reserve Univ. School of Med.

Neurocirculatory asthenia is common, and is closely associated with the endocrine system. There is hyperstimulation of the sympathetic nervous system. The symptoms are nervousness, palpitation and weakness. The characteristic signs are the viscerocutaneous reflex (dilatation of the pupils following pressure on the abdomen) and the oculo-cardiac reflex (slowing of the pulse after pressure on the eyeball).

This condition usually occurs in young people; is commoner in women than in men; is seen in neurotic and psychoneurotic patients; and is sometimes mistaken for hyperthyroidism.

In 20 cases treated by denervation of the adrenal glands, the symptoms were relieved in 16 (84 percent). But if the sympathetic hyperirritability is due to psychic factors, no results follow adrenal denervation.

The "kinetic diseases"—hyperthyroidism, Raynaud's disease, megacolon, spastic constipation, peptic ulcer, diabetes, neurocirculatory asthenia, etc.—are peculiar to civilized man, whose strivings and psychic pressures cause physical alterations in his body. The nervous system can be educated to disease as well as to health. If we cut the nerves of the adrenals (the "fighting organs"), we may be able to free the man from the drive of his characteristic organ—the frontal lobes of his brain.

In high, cross lesions of the spinal cord and in spinal anesthesia, the patient is freed from worry and fear and no emotion is expressed.

A hopeless hyperthyroid patient, who had been unconscious and delirious for three weeks, was given spinal anesthesia, and most astonishingly cleared up for a time, but re-

lapsed. A second anesthesia was given for denervation of the adrenals, but the glands were found so congested and vascular that denervation was impossible, so we removed them. The patient was conscious for four days, and then died of pneumonia. This was a case of "pathologically exaggerated individuality," caused by that *newcomer*, the frontal lobes of the brain.

We have performed adrenal denervation on 126 patients, but this report is solely on the 20 cases of neurocirculatory asthenia, which occurs in stressful civil life, as often as in war.

The adrenal glands are the power station (brain) of the sympathetic system. In cases of recurrent hyperthyroidism, the patients can frequently be cured by adrenal denervation; but this operation will not relieve pathologic physiology of the brain.

The operation of denervation is performed in an area of small sensory power and few blood vessels, and is not dangerous. The two denervations should be separated by a week or two. The day following the first denervation, the patient's symptoms improve notably; if not, the diagnosis was wrong and the second operation should not be performed. If the result is satisfactory, it will be better and *progressive* after the second operation.

THE FUTURE OF MEDICINE

Modern medicine, and particularly modern preventive medicine, is fundamentally the interpretation and application of modern medical research. . . . It is a cooperative undertaking, involving a definite understanding between the physician, the parent, the child, the teacher, the public health administrator and the legislator.

If we are to apply this principle to the saving of the wastage of unnecessary illness and premature death, Medicine must undertake a self-appraisal, to ascertain whether its organization, methods and practices, today, are in accord with this purpose. Such appraisal must come from within—from the medical profession itself—and must be impartial, dispassionate and comprehensive.—LEE K. FRANKEL, Ph.D.

MATERIALISM

The cow in the pasture is convinced that there is nothing in the universe that she cannot touch or smell or taste. She is a natural materialist.

How sad if years of education in the schools and colleges can give a man no advantage over the cow!—'Abdu'l-Baha.

Progress in Otolaryngology

By **William G. Symon, M.D.,** Garrett, Indiana

Otolaryngologist, The Clinic

THE past year or two in the practice of otolaryngology has been a period marked by gratifying progress. A review of the literature shows a large volume of painstaking scientific work and research being carried on, with a resultant increase in our knowledge of pathologic conditions in the ear, nose and throat, their etiology, diagnosis and treatment. Most remarkable is the literature relating to new diseases or to angles of treatment of already known pathologic conditions. The present era of serology prevents ordinary exanthems, which were formerly responsible for so many suppurating ears.

The pendulum seems to have swung lately to a saner, more conservative view of the treatment of diseases of the nasal sinuses. The present tendency is toward treatment of diseased sinuses rather than toward radical operation. Much work has been done on the pathologic changes of the mucosa lining the sinuses and mastoid, as outlined by McMahon. Interesting investigations have been conducted on the regeneration of epithelium in the sinuses after its removal.

Advances in the knowledge of allergic diseases are noteworthy. Weille has conducted an exhaustive study of asthma; while Hastings, Kolmer and Tobey sum up our present knowledge of allergy and consider hay-fever and asthma.

Progress in diagnostic methods has kept pace with that in pathology. The use of radiopaque substances in the sinuses, introduced either by injection or by the creation of a vacuum, as suggested and carried out by Proetz, has not only been an aid in diagnosis, but has given much food for thought in the study of pathologic changes.

Cytologic examination of the fluid contained in the accessory nasal sinuses, as performed by Sewall, is an advantage in diagnosis.

The blood picture in ear infections, as studied by Rosenwasser and Rosenthal, and the relation of laryngology to the blood-making system, open up an interesting field for study and give us much valuable material in diagnosis and prognosis. La Rue studies the blood picture in agran-

ulocytosis and purpura and urges a routine study of the blood in cases of so-called nervous exhaustion, accompanied by a pharyngitis.

Expert technic, in relation to diagnosis and treatment and also in experiments as to the cause of injury and the source of infection, has increased the percentage of correct diagnoses and improved the results in operative treatment.

THE EAR

Drury reports a series of 120 cases of an ear syndrome of hepatic origin. This syndrome includes a series of symptoms which, in frequency of their observation, are: deafness, tinnitus, vertigo, headaches, fatigue and nausea. This syndrome is greatly relieved by proper care and treatment and is apparently primarily due to a longstanding toxemia, arising from a derangement of the liver chemistry.

A new trend in the treatment of mastoid infection is seen in the work of Graham, who finds that the radical mastoid operation is becoming less frequent. This is not because it is less popular, but because it is less often indicated. Early attention to nasal defects, removal of diseased tonsils, early paracentesis in pneumonia, exanthematous diseases and disturbances of digestion in infancy are the leading factors in the prevention of suppurative processes in the ears. The lessening of tuberculosis has helped in decreasing the incidence of chronic suppurative otitis. Extra care in pneumonia and the exanthems, and early care of the ears of nursing infants, will make the radical mastoid operation a rarity.

A new sign in ear diagnosis is Grunfelder's "toe reflex". This sign occurs in children under 5 years of age, in the early stages of acute disease of the middle ear. Before the drum has ruptured, pressure over a point at the junction of the lambdoid, occipito-mastoid and parieto-mastoid sutures elicits, in the foot of the opposite side, a dorsiflexion of the great toe and fan-shaped spreading of the other toes. In some cases it is a dorsiflexion of the great toe and a plantar flexion of the other toes;

or it may be merely a fan-shaped spreading of the smaller toes, without any dorsiflexion of the great toe. This reflex, reported by Rothe, is supposed to be due to increased pressure in the middle ear and is, therefore, less frequently present after rupture of the ear drum.

NOSE AND SINUSES

In the management of fractures involving the nose and paranasal sinuses, Shea stresses a few points. The rhinologist is best prepared to treat fractures involving the sinuses. The basis of treatment is the replacement of bony fragments and drainage of the sinuses entered, thus restoring the features. The watchword is cleanliness and avoidance of infection.

There seems to be a decided and definite trend toward a more conservative system of treatment of diseases of the paranasal sinuses. This attitude is not represented as an apparent swinging of the pendulum from a radical surgical extreme to an equally radical medical extreme. Rather, it seems to be a rational settling down to a mid course of medical treatment, aided at times by more conservative surgery. Hartsook, particularly, upholds the conservative view in the treatment of ethmoiditis. He advises removal of the middle turbinates and a submucous straightening of the nasal septum, then the application of radium in graduated treatments, up to 100 milligram-hours, at ten-day intervals.

In the treatment of asthma due to sinus disease, Harkavy and Maisel cite 19 cases of "non-sensitive asthma", in which no radical surgery was done. The treatment consisted of antral washings and topical applications to the ethmoids. Their results show that the patients have done better than those with incomplete or questionable surgery.

Hurd states a modern conclusion of chronic infections of the nasal sinuses when he says that the theory, that chronic infection of the sinuses is primarily due to bacteria, poor drainage and poor aeration, should be modified. He believes that bacterial infection is always the final process. The primary process is the derangement of the mucous membrane by one of three factors: (1) deficiency in vitamins; (2) allergy; (3) endocrine imbalance. Further, in children, if the sinusitis has not advanced too far, a balanced diet will effect a cure. It may be necessary to remove the tonsils and adenoids, which, with cor-

rection of the avitaminosis, may place the child in a position to throw off the infection. In adults, the vitamins and allergies play some part in prevention but, when the superimposed infection is well established, local treatment, conservative and surgical, is indicated. Ethmoids and frontal sinuses should be treated by local applications and the cause removed if possible. In antrum infections, the antrum should be douched with isotonic saline solution daily, as long as improvement in the character and quantity of the secretion is noted. If there is no improvement in the discharge, operation is indicated. The sphenoid should be similarly douched as long as there is progressive improvement.

Harris calls attention to the relation of vitamins and deficiency diets to sinusitis. He affirms, with Barlow, that it is generally accepted that a diet free of vitamin A predisposes to sinusitis, bronchitis and pneumonia.

De Sanctis has been using for the past four years, in the treatment of sinus disease in children, the high-fat, high-protein and low-carbohydrate diet, with an added supply of vitamins A and D. His sample diet would contain:

- 1.—One quart of milk daily.
- 2.—Two eggs daily.
- 3.—Plenty of vegetables.
- 4.—Fruit juices and fruits.
- 5.—One tablespoonful of butter with each meal.
- 6.—Meat and fish once daily, in children old enough to receive them.
- 7.—Cod-liver oil or a concentrate containing the vitamins A and D.

He sums up, however, with the statement that, in the treatment of sinus infection, proper diet cannot take the place of proper local treatment, and that it is only through the cooperation of laryngologist and pediatrician that best results are obtained.

Wimmer, in a study of the relation of sinusitis to nephrosis in children, arrives at these interesting conclusions:

- 1.—Edema and swelling of the nasal and sinus mucous membrane, occurring as the result of nephrosis, may lower the resistance and thus predispose to sinus infection.
- 2.—Disease of the nasal sinuses is a frequent complication of nephrosis and may aggravate the existing condition.
- 3.—Disease of the nasal sinuses may be

an important etiologic factor in the production of nephrosis.

THROAT

Dimmitt, in citing advances in the field of nose and throat work, makes the plea for more skill and care in performing tonsillectomies. He states that Rhoads and Dick found fairly large pieces of tonsil tissue in three-fourths of a series of 403 tonsillectomized persons. Striking clinical improvement followed removal of these stumps and fragments, where results after the first operation were disappointing. He contends that x-rays, radium and electro-coagulation have not been established as sound treatment for removal of tonsils with any degree of certainty. The cases thus treated frequently show deep infection afterward.

Carmody says, "The use of the endothermic knife or needle for removing portions of the tonsils, by those who are either too timid to remove the tonsil surgically or who wish to play to that element of the profession or laity who want something new, has done infinite harm, by sealing infection in the tissues, for in most cases the tonsil is not removed or completely destroyed".

As to the recurrence of tonsil tissue after tonsillectomy, Leshin and Pearlman, after an exhaustive study of the histology of the extra-tonsillar tissue, find that it often contains embedded lymphoid tissue in its layers. They conclude that there is no method of tonsillectomy that insures the patient positively against the future recurrence of lymphoid tissue at the site of operation. The raw area after operation is epithelialized by the surrounding mucosa, which grows down into it and retains its ability to form lymphoid tissue at its new site. The occurrence of hypertrophy in some instances and its absence in others, is due to constitutional and individual factors, as yet not known.

Robey and Finland present evidence that tonsillectomy may be performed during the active stage of acute rheumatic fever, with no more danger than when it is performed under what appear to be the most favorable conditions. A series of 165 cases were tonsillectomized under ether, the decision to operate being made by internists, not laryngologists. The results of operation have been brilliant.

Levinger performed tonsillectomy on 235 patients with quinsy. From his ex-

perience he concludes that tonsillectomy under this condition is, not only permissible, but is the most favorable form of treatment, especially in cases of recurrent abscesses.

A welcome device for the control of post-operative hemorrhage in throat and nose work is the gelatin disc of Davis. The disc contains 1/4 to 1/3 grain (16 to 21 mgm.) of an antipyrin-tannic acid mixture, and is applied directly to the bleeding fossa by a suitable applicator devised by him. The medicaments are not toxic and, in this dosage, may be used in children. The discs may be applied to any bleeding surface and have possibilities of controlling hemorrhage in hemophiliacs, as a clot is not formed, but the mouth of the bleeding vessel is closed.

Kaplan has described an ingenious method of stopping post-tonsillar hemorrhage—the Kaplan "One-Two Method". Two hemostats are used, the shorter, number one, to grasp the bleeding area, which is usually at the lower pole of the tonsil fossa; the longer, number two, a regular tonsil hemostat, then grasps the tissue immediately behind the number one forceps, which is then removed. This deeper grasp is retained a minute or two, and then the forceps removed, care being taken not to disturb the column of tissue thus formed.

USE OF NARCOTICS

Robert Sonnenschein, in the report of the Committee on the Investigation of the Indispensable Uses of Narcotics, reports that narcotics are indispensable in nasal work, intralaryngeal manipulations and operations under local anesthesia, all of which require cocaine in from 5 to 10 percent solutions. In tonsillectomy, procaine or Butyn may be used. Morphine and scopolamine are highly desirable, but not indispensable.

Laszlo has demonstrated that the strength of cocaine solutions may be markedly reduced, if combined with phenol. He has been using cocaine, 2 percent, with phenol 0.35 percent, in isotonic salt solution, with results equal to those obtained with the use of the 5- to 10-percent cocaine he has previously used. The advantages are, reduction of the toxicity of the cocaine, with sterilization and stability of the mixture. The disinfectant action of the phenol, when the operative area is packed with the solution, and the reduction in cost of the anesthetic are features.

ALLERGY

An exhaustive review by Duke shows the advances in the knowledge of the causes and pathogenesis of allergy, its effects and treatment. He widens the field of causes of allergic reaction to include the scattered cells of wing epithelium of the sand-fly and various industrial dusts. Infantile pyloric obstruction is suggested as one of the miscellaneous effects of allergy. He cites some very interesting experiments on physical allergy, such as that following immersion of the hands in ice-water. This liberates histamin in the tissue, in sensitive subjects, with allergic symptoms, which are relieved by immunizing doses of histamine.

NON-SPECIFIC PROTEIN THERAPY

That protein serology and immunology are destined to play a great part in the practice of medicine in the future, is the conclusion of Beck. He stresses the importance of having all local pathologic processes removed from the nose, throat and ear first, however. By foreign protein therapy he does not mean solely the injection of a foreign protein, such as milk, milk products or Omnadin. It is the belief, today, that specific antibodies are developed in the system from the foreign protein generated by specific serums or chemicals, such as neoarsphenamine, mercury or quinine. These antibodies destroy bacteria or neutralize their toxins, thus curing the disease.

The use of Omnadin in ear, nose and throat therapy was tested by Mitheofer, by a series of over 5,000 injections. This is a preparation in ampoule form, containing the protein of non-pathogenic bacteria, lipid of bile, and fat—three agents capable of increasing the non-specific immunity of the body. In nasopharyngitis, Omnadin is very often a specific. In quinsy, if given in the early stages, there is frequently a complete disappearance of the peritonsillar inflammation following the second or third injection. This is also true of tonsillitis. It seems to shorten the duration of acute otitis media, the first injection often relieving the pain. External otitis and furunculosis, and eczema, respond well after the use of Omnadin. A daily dose, for three days following operations on the ear or nose, aids recovery by increasing the nonspecific immunity of the patient at a time when it is most needed.

The same, more conservative treatment of disease processes in the ear and nose, the studies in pathology and hematology and the excellent, intelligent work being done in allergy, seem to be the outstanding points of progress in the diagnosis and treatment of diseases of the ear, nose and throat during the past year or two.

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The Present Status of Surgery

By A. B. Constant, M.D., F.A.C.S., Santiago, Chile

DURING my whole surgical experience, I have wished for the opportunity to consider surgery simply from the speculative or critical point of view—to be able to analyze it, and the fundamental principles upon which it is based. Its present status, its future, its relation to medicine and the surgeon himself, have been subjects of constant thought, and it is therefore a great satisfaction to me to fulfill my wish and, at the same time, in a general way, to sketch these ideas, with a view to further strengthening the ties that bind medicine and surgery in the great common effort to relieve humanity.

It is very difficult, when absorbed in the details of daily practice, to reflect that surgery is simply an art whose end is the cure of disease. My sojourn abroad for the past few months is, perhaps, the principal reason for this discussion.

Surgery, during the past forty years, has passed through a clinical and technical era, and has emerged an *obra magna*; it has acquired sureness in its performance, created methods, studied pathology, and has modified the interpretation of many symptoms that formerly were referred, before intervention, to affections other than those actually present; it has followed the evolution of diseases from their pathologic lesions and has been able to observe, after long periods, the results of operative procedures.

Surgery is not one of the abstract sciences, since its intuitions and concepts are frankly active and fecund. It does not make a man brutal like strictly physical work, since the least of its more material phases has as its basis a rational study based on observation. By fully associating the act with the idea, surgery follows the path marked out by modern science.

PHENOMENA AS THE BASIS OF KNOWLEDGE

The phenomenologic method enunciated by the German philosopher, Edmund Hus-

serl, is today current practice with the great masters of surgery, and we have often seen how the phenomena produced by section of some sympathetic nerve fiber differ in result from the classical concepts held by physiologists. In our own day, we have witnessed the abandonment of the principles of Langley, who maintained that only the nerve fibres of the cerebrospinal system transmitted pain. As a result of these new concepts, and in the light of operative experience, there has been created all the modern surgery of pain, applied according to the individual case.

Pain, like sensation transmitted to medullary centers exclusive of that sensation, in reality does not exist as such, and is only the result of greater or lesser excitation, due to the quality or intensity of the external excitant. Surgeons believed for a long time that the peritoneal viscera were not painful to touch; it seemed certain that these sensations produced reflexes with a medullary short circuit, without being perceived cerebrally; but any traction upon the mesentery, any inflammatory processes and any obstruction of the intestinal lumen, is sufficient to cause pain. A practical result which is derived immediately from this fact is the use of local anesthesia on the mesentery of the gastrointestinal system, in order to obtain operative insensibility.

Unfortunately, pathologic facts cannot be divined by the observation of physiologic conditions. When an experimenter cuts a nerve, it is relatively easy to determine the effect of the section; but a gunshot wound or a knife wound, which injures the same nerve in an accident, also affects the muscles, arteries and cellular tissue, and thus closes the roads so carefully opened by theoretical study.

THE CRITICAL FACULTY

For this reason, the critical faculty should be more highly developed and more open to variation in the surgeon than in

the physiologists. For the latter, a more rigorous discipline and more exacting methods are necessary; these are certainly not enough for original investigation or creative work, but they give one a truly scientific attitude in judging the theories and findings submitted for examination. Criterion and experimentation have, for the physiologist, a relatively sound basis. A similar discipline would not be suitable for the surgeon.

Pathologic findings are exceedingly inconstant and very numerous; their aspects vary greatly when one considers that, to any one question, only one correct answer is possible. Clinical work every day presents so many problems that a man could dedicate his whole life to them, and still not solve them all. Actually, in the great majority of cases which appear in practice, there is no exact, scientific solution. For instance, there is a tumor—a fibroma—on which opinions differ as to the advisability of extirpation; the patient is an old man, and intervention may result in cure or may cause death, due to the postoperative complications common at his age. What is to be done in these doubtful cases? Do nothing for want of certainty? By no means! Life and necessity press upon us, and we have to make a decision on the basis of what we have been taught, combined with reason and instinct, always keeping in mind the opinions of great thinkers and bringing into the final decision the conscience of the surgeon.

J. L. Faure said: "Let us always invoke that *something* which is outside of science, outside our art, outside our experience. And when doubt assails our spirit, let us call to our aid, from within ourselves, that which we feel is most pure, most profound, most inflexible and sacred—let us invoke conscience! Because we are only men, fallible like all men, subject to uncertainty, exposed to error, lost at times in darkness, and yet, each day before the uncertain roads of life and death, we have the duty of choosing."

Surgery, loaded with the riches of the past, faces a future full of magnificent promise, and its destiny is assured for an indefinite time. But the best way to predict the future of a science is to consider in what respect it is lacking.

OPENING PATHS

We know almost empirically of the marvelous effects of chloroform or ether

anesthetics; they are simply useful poisons, whose effects we are not able to gauge exactly; we know that they completely overcome pain and consciousness. On the other hand, there are anesthetics which leave the patient lucid and conscious during all phases of the operation. Regional, local and spinal anesthesia already promise great things and are in common use in all parts of the world. Ethyl chloride, nitrous oxide, ethylene, avertin and derivatives of barbituric acid, given intravenously, suggest a very hopeful future.

Nerve surgery is beginning to emerge successfully from the tragic statistics of past years. "Man knows very little of the cerebrum which has enabled him to discover the world," said Professor Leriche, of Strasbourg. The classic decompressive trephination is already beginning to be replaced successfully, in the search for tumors perfectly localized by specialists. Operations such as are performed today under local anesthesia will enable the surgeon to make definite observations and to examine a series of problems which, in the not-very-far-distant future, will be solved. Our knowledge of the neurovegetative nervous system is still very imperfect, since our only ideas on human physiology are gained from animal experimentation. Surgery must study and establish the topography of the specialized ganglial functions and of the nerve ramifications which branch off from the ganglia.

Operations on the heart have been concerned almost exclusively with traumatic lesions of the organ—suture of wounds, and extraction of bullets. In regard to valvular heart disease, in which there have been some isolated cases of intervention, very little has been done. In a few cases of stricture of the valves, sectioning with the bistoury has been accomplished. Of course, any section of special nerve fibers at the base of the neck, as in angina pectoris, could—in complete arrhythmia, for example—reestablish the sinus rhythm by exercising a depressive effect on the myocardium.

In the fight against cancer, surgery has given the greatest proof of its efficacy. But at present it is successful only in early cases and at the cost of extensive mutilation. Progress will, therefore, consist less in perfecting the methods of removing this or that organ, than in prophylactic measures. Physics, chemistry and biology have

pleasant surprises in store for us. The use of elements such as radium, which was unknown prior to the last 20 years, the x-rays and serotherapy, each day narrows the field for mutilating surgery. However, in preventive medicine is our hope for the future. Consider what medicine has accomplished in the fight against typhoid, yellow fever, smallpox and many other diseases.

I should like to continue further in this field of speculation, for although surgery may be losing ground in certain branches of medicine, I am convinced that the future is full of real promise; on the other hand, I know that imagination can sometimes carry us too far and may overlook grave questions presented by the daily progress of our science.

THE SURGEON AND THE INTERNIST

Medicine and surgery are founded on a great number of common interests, and in reality form only one science. I do not recall who it was who said: "The surgeon is just a doctor who executes his own prescription." Each day it becomes more difficult to trace the exact limits of the dominion belonging to each; the fusion of the two is such that often we cannot decide whether a certain affection belongs to the surgeon or the internist; frequently it belongs to both. Diseases of the liver, kidneys, stomach—of the abdomen in general—and many others constitute uncharted regions, in which various therapeutics overlap. Frequently, for example, there appears a great doctor like Dieulafoy, who does the theoretical work of a surgeon, in the study of appendicitis; and, inversely, a surgeon who settles questions of medical order; the dyspepsias and gastric syndromes are better understood since the more frequent exploration of the stomach for various conditions.

Between the surgeon and the physician there are frequently differences in temperament. In general, the attitude of the surgeon is more positive, more realistic than that of the physician; he is accustomed to making direct comparison of visible phenomena; he believes strictly in what he sees, what he can touch with his hand, what an incision reveals to him; tangible proof pleases him; he is not addicted to hypotheses or generalizations, and has a decided reverence for figures and statistics. The mind of the physician, un-

til quite recently, was very different; not being able, in most cases, to exercise direct control, he became accustomed to interpreting the frequently indefinite symptoms of a lesion and making deductions therefrom; he has constantly displayed a strength of imagination in which sensory perception holds equal place with intuition.

These differences in temperament are being lessened each day, because medicine, thanks to its present component elements, is becoming more positive. Almost all the important discoveries made during the last quarter-century have come from the laboratories. Charles Richet established the bases of serotherapy. From the laboratory of Fernand Widal emerged the typhoid fever reaction; and also from laboratories have come the rules of hygiene and modern prophylaxis. But today, an interdependence has been established, and I am sure that with each day it will be closer. One rarely sees physicians now, who are antagonistic to surgery—they understand its limitations and its resources. In the great joint problems—for example, the fight against cancer, the treatment of appendicitis and cholecystitis, and in gynecology—the progress that has been made is due to close collaboration on the part of both. If tumors of the breast, fibromas of the uterus, goiter, ulcer and cancer of the stomach, and certain types of localized tuberculosis, are now being operated upon with satisfactory results, it is not only because technic has been perfected, but is due to the fact that the physician has faith in surgery and turns to it as soon as he discovers the first manifestations of an operable lesion.

The application of chemistry, physics and microbiology is constantly transforming medicine and surgery and completing their unification. In the future, we will not definitely have either medicine or surgery, but a general pathology covering all phases of the subject; some conditions will necessitate operative action, others will be treated medically, but all will simply form parts of a common whole, subject to the same joint laws and having parallel evolution.

LIMITS OF UNIFICATION

Even with medicine a unified science, the operative decision and the art of surgery will always be reserved for the surgeon himself. I do not at all believe in the imminent democratization of surgery and

the use of the bistoury with impunity by any and every doctor; it is in the operative art that the personal qualities of the surgeon are most important. The apprenticeship of the surgeon is long, lasts during his whole life-time, and the perfection of his technic should increase each day. Only the mediocre surgeon can be definitely satisfied when he has reached a certain degree of dexterity. In spite of any imaginable democratization, true surgery will be reserved for the elite because, as new operative facilities continue to appear, greater skill will be required of the surgeon, and, furthermore, it will always be necessary, in order to practice surgery efficiently, to have a combination of qualities—in no way superior, but highly specialized—which is rarely found in one individual. It is in the surgeon that the apprentice seeks the science of operating, and hence it is at the operating table that he learns the art; by working at the side of a master, assisting him in his operations, participating with him in delicate manipulations and imitating his gestures, it is possible to become gradually initiated into the ever-new difficulties of operating and, some day, to feel capable of undertaking it himself.

I am not ignorant of the fact that the

principles here laid down run counter to a certain anarchistic liberalism which exists today. Any individual is entirely free—whatever his origin and creed, religious or otherwise—to accomplish any ambition, but only after he has submitted himself to a discipline of work and competition.

Certain European and American thinkers—many of them teachers—have set up a new creed of the integral equality of all and of all parts—a veritable dementia of unification; unification of races, of color of the skin, of physical and even psychic values, and social and political equality. Unification—levelling! As though inequality were not the rule, the law of life! We look about us at the living world, and it becomes immediately apparent that nature is not unified; on the contrary, it is diversified to an infinite degree, since it is necessary that there should be beings for all tasks: this is the secret of life, and of its duration through the centuries. Natural laws should not be violated—no sophism will suffice; those laws are immutable. Communities, as well as individuals, show their inequalities; no mental point of view can change in the least the basic laws which nature has created.

Pedregal 15.

Progress in Endocrinology

The Hormones Influencing Gonad Function*

By Henry R. Harrower, M.D., Glendale, Calif.

MORE than thirty papers have appeared in the past year on the hormones influencing the sex glands, and more than one hundred in the last two years. In fact, there is so much information, mostly experimental, that many physicians are confused by the varied number of products and their physiologic potentialities.

In view of the fact that these products may be found in four different places, whether they originate there or not, it seems worth while to set down, in outline, the essence of the available information regarding the series of hormone principles that are known to have an effect upon gonad function.

These substances, sometimes erroneously called the sex hormones, are of quite different nature, both chemical and physiologic. It is because of this that it is now proper to differentiate between the hormones influencing the gonads, because various methods of fractional extraction have enabled us to separate them in more or less perfect form and, by means of certain quite spectacular physiologic experiments, to demonstrate their distinctive nature and varying influences.

Active principles capable of modifying sex activity are found in the placenta, the ovaries (follicular fluid, stromal tissue and the corpora lutea) and the anterior lobe of the pituitary. Besides this, it is possible to extract very similar substances from the blood, urine and other body fluids. It is

*Read before the Endocrine Round Table, Los Angeles, Cal., October, 1931.

even possible to demonstrate the presence of variations in the concentrations of these substances in the blood in different states, both physical and laboratory. This, it will be remembered, is the basis for the Aschheim-Zondek test for pregnancy, which is essentially a determination of the presence in the blood or urine of substances not usually present there, which are capable of bringing about certain quite obvious trophic reactions on the sex mechanisms of mice, rats, etc.

Parenthetically, the Aschheim-Zondek test consists of injecting the morning urine of women suspected of being pregnant into immature female mice (because the anterior pituitary hormone in the urine of pregnant women will produce marked changes in the ovaries of the mice) and observing the effect upon their genital organs. The test is carried out by giving 6 graduated injections of urine, averaging 0.3 cc.—3 injections the first day and 3 the second. The mice are killed 100 hours after the first injection. Usually five mice are used. More recently, a shortened method of procedure has been suggested; i.e., one single intravenous injection of 10 cc. of urine, with completion of the test in 36 hours.

This philosophy has been developed still further, so that now it is possible to evaluate clinically the variations of the concentration of these pituitary principles in the blood, thus enabling us to classify, in the laboratory, patients with pituitary shortcomings.

It seems best to differentiate these active principles physiologically, rather than anatomically, for it seems that apparently identical substances may be extracted from several different tissues. As things now stand, we are not yet entirely sure whether a given substance found in one place actually originates there or may have been produced elsewhere and delivered to the place where we find it.

It is said that there are at least four types of hormones influencing the gonads, and it might be added here that, while most of this work has been done on the female gonads, because of the facility with which reactions based on gonad functions can be demonstrated in an experimental way, these influences are apparently identical in both sexes, even though their manifestations are obviously different.

THE ESTRUS-PRODUCING HORMONE

An active principle, originally separated by E. A. Doisy, of St. Louis, from the fluid in the Graafian follicle of the ovary, has the remarkable faculty of arousing in animals the sexual cycle known as estrus, rut or heat. This principle was originally called "folliculin"; then "the ovarian hormone"; and later, "the female sex hormone." The present general name given to this material is "estrin," since it is an estrogenic substance, with a faculty of causing those changes that are ordinarily induced by the hormones produced in the ovaries during their periodic cycle. The term "female sex hormone" is erroneous, for there is more than one female sex hormone and it is entirely possible that some of the substances designated "female" are of similar importance in the male.

This estrus-producing hormone, or **estrin**, was later prepared from ovarian tissue and, still later, it was discovered in much greater concentration in the placenta. In fact, it is now suggested that a newly-discovered physiologic service rendered by the placenta is its absorbing the estrogenic substances present in the blood, thus keeping them out of the way during the period of ovarian quiescence.

The first preparation made available for clinical use was known as Folliculin and, later, as Plestrin, which was much less expensive and more concentrated than Folliculin. In the meantime, a similar substance was found in the amniotic fluid, to which the name Amniotin was given. Still later, another product appeared, with the name Estrogen. More recently, Doisy has found a way of concentrating the estrin from the blood and urine of pregnant women, and the preparation known as **Theelin**, made from urine, is now available. All these substances evidently originate in the utero-ovarian structures, a difference which it is desirable to mention in view of what will later be said regarding similar substances found in the anterior lobe of the pituitary gland.

It should be added here that, very recently, still another fraction, known as **Theelol**, has been discovered, with potentialities akin to those of Theelin, but differing with respect to its comparative potency. It is stated that Theelol is six times as active as Theelin, in tests on immature rats; whereas, in spayed animals, Theelin

is twice as active as Theelol, thus indicating that a part of the effect of Theelol is upon and through the ovaries themselves. It seems undoubted that Folliculin, Estrin, Plestrin, Amniotin, Estrogen and Theelin are one and the same thing, different in origin perhaps, but identical in physiologic activity and therapeutic potentiality. It is probable that Theelol is the anterior pituitary estrin.

For a number of years, Doisy and his associates have been perfecting a method for determining the character and potency of estrins, which consists in administering certain amounts of the substances in question to ovariectomized rats and determining, by microscopic measures, the changes that come about during estrus. Preparations of this nature are now standardized in rat units or Doisy units.

The physiologic faculty of this estrogenic substance includes more than the establishment of estrus. In fact, there is a trophic influence even more marked and obvious, and it might be of interest to add here that this facilitates a dual method of standardization, based upon the extent to which hypertrophy may be brought about in the sex mechanism of animals that have been treated with this principle. For example, a short series of injections of Plestrin into immature female rabbits, causes an increase of from 1,200 to 1,500 percent in the weight of the dissected uterus, horns, tubes and ovaries, as compared with the same structures taken from a control animal of the same litter.

THE LUTEINIZING HORMONE

There is another series of hormone principles that originate in the corpus luteum in different stages of its activity. There are at least two physiologically different substances produced in this tissue, one with a so-called progestational influence, which has to do with the proliferation of the tissues related to gestation. To this has been given the name "progestin," because of its protective function in connection with gestation. With this there is a "second luteal hormone," to which the name **lutein** has been given. This second substance appears to be the more important of the two. It has a widespread influence, essentially anti-ovarian in character, since it inhibits the maturation of the Graafian follicle, lessens the sensitivity or contractility of the uterus (the

uterotonic stimulus expected from Pituitrin is lessened or entirely lost during the phase in which this "lutein" preponderates), and also exerts a growth-stimulating effect on the mammae.

It is evident that there is a complementary relationship between estrin and lutein, the former being responsible for the changes in the organism prior to fertilization, while the latter brings about the changes necessary for the continuation of the pregnancy. It may be said, then, that the principal luteal hormone is what might be called an antestrin, or substance capable of overruling estrus.

Quite recently this information has been put to use in the laboratory and, as a result of this, a means for the standardization of the luteal hormone has been developed. This consists in administering certain amounts of the substance to mice or rats, and thereby temporarily neutralizing the usual estrogenic influences and postponing the normal manifestations of estrus. It is believed that the potency of the luteal antestrin can be measured in this way, thus adding one more to the already long list of endocrine principles, the potency of which can be evaluated in the laboratory.

THE GONAD-STIMULATING HORMONE

While the initiation of estrus and the favoring of luteinization are both gonad-stimulating properties, there is still another active principle which has an undoubtedly stimulating effect upon the gonad function, but is not actually capable of bringing about estrus or luteinization. We are indebted to J. B. Collip for information about this, and to put matters briefly, this Canadian worker has perfected the alcohol-soluble fraction of the placenta, that was first announced by B. P. Wiesner, of the University of Edinburgh. This is the "ovary-stimulating hormone of the placenta," called **Emmenin** (*Can. Med. Assn. Jour.*, Feb., 1930, xxii, pp. 215 and 219; *Ibid.*, June 30, p. 761).

Wiesner treated fresh placenta emulsion with sulphosalicylic acid, producing an extract that brought about premature maturity in young rats. But since the acid used in the extraction interfered with further developments, the matter was taken up by Collip in September, 1929. Collip says of the product:

"It has been found possible to attain great concentration of the active principle. It has

been obtained free from protein, salt, lipid and oestrin, and in the form of an aqueous solution it may be administered either subcutaneously or orally."

It should be particularly noted that this product is free from estrin, and also that it is active when given by mouth.

As a result of Collip's investigations, another active principle has been separated from the placenta, called "the anterior pituitary-like, gonad-stimulating hormone from the placenta." This product, however, is an alcohol-insoluble fraction. I have been successful in separating a similar substance, which is called **Plagonin**; known as the maturity-producing hormone, which is obtainable from the blood and urine of pregnant women, as well as from the placenta. It acts much like the anterior pituitary estrin, and is apparently similar to Doisy's Theelol, referred to previously. This hormone seems to liberate the sex hormones by catalysis, and under this influence decided trophic changes have been brought about in the essential sex organs. It has a negative effect in castrated animals. Plagonin is active only in the presence of the sex hormone, and, of course, is not used alone. It has been found of advantage, however, to give it in conjunction with other endocrine stimulants of male gonad function, and since early in 1931 Plagonin has been made a part of the formula known as Gonad Compound. Campbell and Collip employed it in metrorrhagia, stating, "The results in this small group of cases have been most encouraging."

THE ANTESTROUS HORMONE

The luteal anti-ovarian factor has a counterpart, which originates in the anterior lobe of the pituitary. It is beginning to be discovered that active principles obtainable from endocrine sources are not simple, single entities, but balanced combinations, individual units of which are sometimes physiologic antitheses of one another. This appears to be the case with the "anterior pituitary hormone," for it really is a combination of several substances with widely differing influences, as for example, upon growth and sex or maturity.

B. P. Wiesner and other workers in the University of Edinburgh, by the discovery of variations in their solubilities, have separated fractions from the anterior pituitary which have an opposite effect to the estro-

genic hormone. The estrus-inhibiting fraction, or antestrin, antagonizes or balances the so-called anterior pituitary estrin, and these two antitheses have been called, respectively, "Rho-One" and "Rho-Two." More recently H. L. Fevold, in the University of Wisconsin, has duplicated this accomplishment by recourse to pyridine, and the dissimilarity between these two fractions has been decisively confirmed.

In Germany, these two anterior pituitary fractions have been called hormone "A" and hormone "B," and, later, "Pro-lan A" and "Pro-lan B." In this country the names "**Apestrin**" and "**Aplutin**" have been suggested, the former for the estrus-stimulating principle or follicle-maturing hormone, which brings about its effects directly upon and through the follicle apparatus of the ovary and the formation there of folliculin, and the latter for the luteinizing hormone, which is very similar in physiologic activity to the lutein obtainable from the corpora lutea, which arouses in the corpora lutea the formation of the corpus luteum hormone and the simultaneous over-ruling of follicle maturation.

As a result of their researches abroad, it is now stated that the hormones of the anterior lobe of the pituitary are "the superordinated general sex hormones," and it is insisted—and it is believed rightly—that, without the hormones of the anterior lobe of the pituitary, there would be no sex hormones.

CLINICAL UTILITY

From the standpoint of the clinical utility and application, there is still very much to be accomplished. Already in Germany alone, there are a dozen preparations of this general nature, obtained from the anterior pituitary, placenta and ovary, and a report regarding the activity of eleven anterior pituitary preparations, made in the University of Freiburg, indicates that all of them are inert from the standpoint of their influence upon estrus and upon the developments in the ovary that may be demonstrated in the laboratory. Unfortunately, this very fact is interfering materially with the clinical use of products in this class, because it is presumed, erroneously I believe, that an endocrine preparation, in order to be therapeutically available, must be capable of physiologic evaluation in the laboratory. The possible influence that it may exert

catalytically upon the patient's own mechanism, is not taken into consideration. The replacement of an artificially-missing hormone is quite another matter from the augmenting of the endocrine function of a mechanism that is still present, even though defective. Then, too, the fact is often forgotten that many crude endocrine products have been in successful use for years before their active principles were separated and proved.

The methods of utilizing these new ideas and the preparations with which to make them clinically available, are never going to be acceptable in a general way until it has been established, once and for all, that *these substances are catalysts*—that in microscopic amounts they are capable of arousing, in remote organs, microscopic developments as well as, of course, chemical changes which result in connection with these physical changes. It seems that the development of our present knowledge of the anterior pituitary hormones, both estrogenic and luteinizing, is going to assist materially in confirming our conceptions of the questioned philosophy known as "homostimulation." Surely, the difference between the activity of some of these products depends upon the status of the experimental animal and the response of its organism, rather than solely upon the replacement of something that has been removed by surgery.

Then again, the estrogenic principle obtained from the anterior pituitary differs decidedly in its experimental possibilities from that obtainable from other sources, in the fact that the former is active only in non-spayed animals; whereas the latter, that is, the pelvic estrin (secured from the follicles, ovaries or placenta), is capable of doing the work in animals *that have no sex glands at all*. Obviously, in one instance the effect is brought about by the homostimulative means, which accounts for the increasing frequency of the phrase applied to the anterior pituitary hormones, "The motor of the sex glands."

At present, the probability of being able

to utilize in a therapeutic way some of these very expensive and highly technical extracts is not good, and it is satisfying to be able to look back and see how, in our crude and unscientific way, we have been helping patients, time after time, to produce their own endocrine principles, thereby arousing, on the part of the patient's own mechanism, some of the influences, the absence of which has caused their difficulties. Without a question, anterior pituitary therapy—not with the finished fractions, but with the crude material—exerts definite ovarian effects, in exactly the same way as these purified hormones can be made to act in experimental work, by means of and through the mechanism which is capable of responding to their stimuli.

RECAPITULATION

SOURCE OF EXTRACT	GONAD-STIMULATING	GONAD-INHIBITING
OVARIES	Folliculin (Graafian fluid) Ovestrin (Stroma)	
CORPORA LUTEA	Agomensin (luteamin)	Endoluteum Lutein Progesterin Sistomensin (luteolipoid)
ANTERIOR PITUITARY	Apestrin Prolan-A (Prolan) Rho-one	Aplutin Rho-two
PLACENTA	Estrin (Oestrin) Plestrin Progynon Emmenin Plagonin	Prolan-B
BODY FLUIDS (Amniotic, Blood, Urine)	Amniotin Theelin Theelol	

INTANGIBLE REALITIES

The world consists, not only of electrons and radiations, but also of souls and aspirations. Beauty and holiness are as much aspects of nature as is energy.—GEN. JAN C. SMUTS.

Recent Advances in Pediatrics

By B. M. Gasul, M.D., Chicago

Attending Physician, Contagious Disease Dept., Cook County Hosp.; Consulting Pediatrician, Municipal Tuberculosis Sanitarium; Instructor in Pediatrics, Research Hospital, Medical School of the University of Ill.

ALTHOUGH pediatrics is one of the youngest branches of medicine, and 25 years ago there were not, perhaps, half a dozen men in America who practiced pediatrics exclusively, tremendous advances have been made in our knowledge of the etiology, pathology, pathogenesis, prophylaxis and treatment of various disturbances of the gastro-intestinal tract of infants and children. Think, also, of the late contributions to our knowledge of rickets, scurvy, pellagra, xerophthalmia, diphtheria, measles, scarlet fever, tuberculosis, whooping cough, epidemic cerebrospinal meningitis, poliomyelitis and many other diseases! I realize that, in an article like this, I shall have to limit my remarks to the most practical and outstanding contributions in the most important diseases of infancy and childhood, so I have selected diphtheria, scarlet fever, tuberculosis and rickets.

DIPHTHERIA

I believe we can safely state that the value of active immunization against diphtheria has been proven beyond any doubt and that practically all infants and children can be protected against this once-fatal disease¹. Infants should be immunized between the ages of 6 and 12 months and, since the overwhelming majority of them show a positive Schick test, this preliminary test should be performed only on older children. In my practice I perform the Schick test on all children above the age of 5 years and find only a small percentage who are Schick-negative.

The **Schick test** is a very practical and clinically very accurate test for determining the presence or absence of immunity. Whereas, until recently, the material for the Schick test had to be made up fresh every day, most of our commercial houses are now putting up vials containing diphtheria toxin, diluted and ready for administration, which remains stable for at least six months.

While I feel that this is not the place to discuss the technic of this procedure,

I wish to emphasize that the test be read at the end of the third or fourth day, and not in twenty-four or forty-eight hours. The pseudo reaction, which sometimes occurs, reaches its height usually in 24 hours and disappears in 48 or 72 hours. A control test is usually unnecessary if the test is read after 3 or 4 days. All infants and children showing a positive Schick test should be actively immunized.

The **toxoid** is rapidly replacing the toxin-antitoxin for active immunization and most pediatricians and a great many general practitioners are now using it. In this preparation, the diphtheria toxin is rendered non-toxic by exposing it to formaldehyde. Ramon, of France², was among the first to show that this detoxified toxin is very highly antigenic. The toxoid contains no antitoxin, and therefore eliminates the possibility of sensitizing the patient to serum. Immunity develops much quicker when toxoid is given than after toxin-antitoxin injection, and the degree of immunity obtained is higher than with toxin-antitoxin^{3, 4}. I usually give three injections, three weeks apart, starting with 0.5 cc., followed by 1 cc., and finally by 1.5 cc.

Recently Prof. Loewenstein, of Vienna, prepared an ointment containing the toxoid, as well as dead diphtheria bacilli, and reported successful immunization of infants and children by this inunction method. While the inunction method is undoubtedly the safest and the most painless method of immunization, yet attempts^{5, 6} to produce an active immunity by the use of this method have, so far, been less successful than by the use of either toxin-antitoxin or toxoid.

SCARLET FEVER

Although there are still some authors who do not fully accept the recent findings of the Dicks, Dochez⁷ and others in regard to the etiology, prophylaxis and treatment of scarlet fever, the use of the **Dick test** for determining the susceptibility to scarlet fever, of the toxin for active

immunization and of the antitoxin for passive immunization, is becoming more generally employed. The Dicks deserve the greatest credit for most of the recent advances made along the line of prevention and treatment of this disease. In general, we may say that the weight of clinical evidence points to the great value of the Dick test in discovering those who are susceptible to the disease.

The Dick test should be read within eighteen to twenty-four hours, for after that period the erythema will disappear. All those reacting positively to the Dick test should be immunized by the use of 5 weekly injections of gradually increasing amounts of scarlet fever toxin.

A recent paper by P. S. Rhoades⁸ points out the following program, which he used from January 1, 1927, to July 1, 1930, on undergraduate nurses on duty at the Cook County Hospital:

"First the Dick test is made by injecting exactly 0.1 cc. of Dick test toxin intradermally, on the volar surface of both forearms. Regular skin test syringes (made by MacGregor, of Philadelphia) and 26-gage "Summit" needles are used. The Syringe should be sterilized by boiling in distilled water only. Alcohol may precipitate the toxin and alkaline tap water may alter it. The test is made on both arms, to avoid errors in technic. A control test is not necessary.

"The tests are observed from twenty to twenty-four hours later. It is unsafe to take readings after a lapse of twenty-four hours, because a positive test may have faded by that time. Any degree of pinkness 0.5 cm. or more in any diameter is regarded as a positive test.

"Those found susceptible are immunized by being given the five graduated doses of immunizing scarlet fever toxin subcutaneously, at intervals of one week. Only preparations of scarlet fever toxin approved by the Scarlet Fever Committee and so labeled are used. Two weeks after the last dose of scarlet fever toxin, the subjects are retested and if the test is still even slightly positive, a sixth dose, the same as the fifth, is used. One is strongly advised against using the two or three dose immunization with so-called ricinoleated scarlet fever antigen. In our experience this material gives extremely severe reactions and does not produce good immunization.

"The Dick test proved to be a reliable indicator of immunity to scarlet fever. No cases developed among 533 nurses found immune on original tests, while fifteen cases occurred during the same period among 449 nurses who either were Dick-positive or were neither tested nor immunized.

"Immunization with five doses of scarlet fever toxin of 500, 2,000, 8,000 25,000 and 80,000 skin test doses, respectively, was successful. No cases of scarlet fever occurred among 298 nurses who received the full series of immunizing doses, while there were fourteen cases during the period among 449 nurses who received no immunizing

doses from the Scarlet Fever Committee and one case in a nurse who had received three doses but had not had her fourth and fifth immunizing doses.

Among the 190 nurses immunized against scarlet fever, the total loss of time, due to reactions from the immunizing doses, was 45.5 days—an average of 0.239 days per nurse."

Much controversy still exists in regard to the therapeutic value of the antistreptococcus toxin serum in the treatment of scarlet fever. Since the severity of the various epidemics of scarlet fever vary greatly and since the dose and the time when the serum is given exert a great influence on the mortality and on the complications of scarlet fever, it is very difficult to determine the value of the serum accurately. I believe, however, that the recent work along this line can be summarized as follows:

An injection of scarlet fever antitoxin brings about a marked therapeutic effect, on the toxic symptoms of the disease—that is, on the rash, fever and vomiting—if it is administered within the first twenty-four hours after the onset of the disease. The development of complications is more or less reduced, but no effect can be observed on complications that have already developed^{9 10}.

TUBERCULOSIS

The old bogey, held not longer than ten years ago, that the presence of a tuberculous lesion in the infant's organism, or even that the presence of a positive tuberculin reaction without any demonstrable lesion was practically synonymous with death, has been definitely exploded¹¹.

The older ideas were based chiefly on observation at autopsy or on advanced generalized forms of tuberculosis. Nowadays the common employment of the tuberculin test and the use of the x-rays have proved beyond any doubt that even an infant shows a great resistance to the tubercle bacillus. The important things in saving the lives of infected infants and young children are early diagnosis, finding the source of infection and the separation of the patient from that source.

Tuberculous infections can be diagnosed only by the use of the tuberculin reactions. If routine tuberculin tests are regularly performed, one will find that a certain percentage of babies and children are tuberculously infected without showing any clinical manifestation of the disease. It should be clear that an infant or pre-school

child can become infected only when someone with whom the child comes in more or less direct contact suffers from some form of open tuberculosis. The gratifying thing about this form of the disease is the ease with which the focus of dissemination can be ascertained in these young patients. It is invariably either the mother, father, grandparents, maid, or some other person with whom the patient comes in contact.

I hope that, in the near future, the performance of the tuberculin test on infants and young children will become a routine procedure in our offices, dispensaries, infant welfare stations and all other agencies caring for infants, and then the discovery of a positive tuberculin test will result, not only in the early diagnosis of tuberculosis in the youngster, but also in finding the source of the infection. The use of the tuberculin test on older children is, of course, of much less value.

PROPHYLAXIS AGAINST TUBERCULOSIS

Prophylactic **vaccinations with Calmette's B.C.G.** has been and still is the outstanding recent subject for debate all over the world. Calmette and Guérin have employed a vaccine containing the bovine tubercle bacillus which, through many years of special subculturing, has lost its virulence but still retains its immunologic properties. The vaccine is known as B.C.G. Calmette advises giving this vaccine, orally, to all newborn infants. Older children are given subcutaneous injections.

Thousands of infants and children have been vaccinated in France, in French Indo-China, in many European countries, and a considerable number in New York by Drs. Park, Schick and their associates. The French are very enthusiastic regarding the use of this method and report a mortality of only 2 percent among vaccinated infants, as opposed to about 25 percent among the non-vaccinated infants. Pirquet, Nobel and Chiari, in Austria; Petroff, in this country; and Lignieres, in South America, are among the outstanding opponents of vaccinating infants with B.C.G.

While it is now generally admitted that this vaccine is nonpathogenic to the lower animal kingdom, grave doubt has been cast on Calmette's claim that the virus is a fixed one. Petroff reports dissociation of the B.C.G. into two groups, one avirulent and

the other virulent. As long as the vaccine is grown under the conditions prescribed by Calmette, it appears non-pathogenic, but who can tell whether the tubercle bacilli, once introduced into the human organism, may not again become virulent? Time and careful followup work on vaccinated patients, with detailed pathologic studies, will undoubtedly answer this question. Meanwhile, at least in this country, the subject is still held *sub judice*.

RICKETS

I feel that a few words must be said regarding the recent advances in rickets. A glorious chapter on the prophylaxis and treatment of this once very common disorder of infancy has been added during the past few years.

In January 1927, Windhaus and Alfred Hess announced that ergosterol, isolated from the cholesterol content of cod-liver-oil, was the provitamin of the antirachitic factor, and that exceedingly small doses of the irradiated ergosterol, now known as **viosterol**, will prevent and cure rickets. A tremendous amount of literature has now accumulated in regard to the use of viosterol, and the wide margin of safety between the clinical doses and toxic doses has been definitely established. In Chicago, J. Hess, N. G. Poncher, M. L. Dale and R. I. Klein¹² concluded, from an extensive study, that 10 drops of viosterol is the minimum dose for prophylaxis. Infants with mild rickets need 15 drops daily, and with severe rickets 30 to 60 drops. Massive doses of viosterol failed to cause toxic symptoms.

We must, however, realize that viosterol contains only vitamin D, while cod-liver oil contains both D and A and is, besides, a food rich in calories. Viosterol does not demonstrate the power to stimulate growth nor to prevent infections of the upper respiratory tract, as cod-liver oil does when administered in proper doses. I use viosterol prophylactically only when the baby absolutely refuses to take cod-liver oil, or in cases of rickets when we wish to hasten the effect of the oil.

A recent study¹³ showed that the apparently widespread substitution of viosterol for cod-liver oil in the diets of children is not logical and may result in an appreciable decrease of the child's strength and resistance to infection.

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3460 Lawrence Ave.

The Modern Treatment of Cancer of the Rectum

By A. Lawrence Abel, F.R.C.S., London, Eng.

Chief Surgeon, London Cancer Hospital

IN THE treatment of almost all types of cancer, in all localities, one must deal adequately with all of the areas of lymphatic drainage of the affected part.

In cancer of the rectum, metastasis is early and widespread, involving the lymphatic areas in the pelvis and in the root of the pelvic mesocolon. The malignant process spreads upward, downward and laterally, but in the upward direction the spread is widest and most important. For this reason, treatment by radiations (radium and x-rays) is relatively ineffective, and extensive and radical surgery offers the only reasonable prospect of a cure.

The abdomino-perineal operation employed, in selected cases, in the London Cancer Hospital, is heroic surgery and the patient must be in the best possible condition before it is attempted. The cardiac energy (pulse pressure) must not be below twenty-five nor above seventy-five percent of the diastolic pressure, and the blood picture must be built up to at least a reasonable condition.

We put these patients to bed, on a liberal diet containing plenty of glucose, for from seven to ten days before operation and clean out the colon thoroughly with high irrigations. No treatment of any sort is given during the forty-eight hours before operation.

The operation itself is begun, with the patient in the dorsal Trendelenburg position, by an extensive right, paramedian incision. The wound is protected by towels clamped to the rectus sheath (not to the skin); the upper abdominal organs are

packed off; and a large, self-retaining retractor is inserted.

The mesocolon is doubly ligated, *en masse*, opposite the bifurcation of the aorta, and the colon is crushed with a heavy crushing forceps, doubly ligated, and severed at an appropriate point, the cut ends being covered with firmly-secured, sterile oiled silk, to prevent leakage, the proximal end being held aside to form the colostomy.

The lower part of the colon and the sigmoid, with their mesentery and all lymphatics and other structures attached to them, are completely dissected loose, including the peritoneum as far as the base of the bladder and below the brim of the pelvis, and pushed down into the pelvis.

The peritoneum covering the base and dorsum of the bladder is mobilized by dissection, forming a large flap, which is drawn backward and sutured, at the back and sides, to the cut edges of the abdomino-pelvic peritoneum, to form the new pelvic floor.

A stab wound is made, in the left iliac fossa, and the proximal end of the severed colon is drawn through it and anchored, to complete the colostomy, after which the abdominal wound is closed in the usual way.

The patient is then turned into the right lateral position and the perineum exposed and draped. After sewing up the anus, a transverse incision is made opposite the base of the coccyx, connecting with curved, antero-posterior incisions, passing on each side of the anus and meeting well in front

of it. The skin-flaps thus marked out are dissected up, the coccyx is removed, and the levatores ani muscles divided. The pelvic colon and upper portion of the rectum can now be drawn through the perineal wound; the remainder of the rectum is dissected free, including the anus, and the whole of this portion of the bowel, including the growth, removed. The pelvis is now empty of everything except the genito-urinary organs.

In order to support the peritoneum of the new pelvic floor, the cavity is lined with sterile oiled silk (to prevent the packing from adhering to the tissues) and firmly packed with gauze. Within forty-eight hours, the fibroplastic lymph poured out on the peritoneal aspect will have

formed a pelvic floor about one inch in thickness. The packing and silk are then removed and the wound allowed to heal by granulation, keeping it irrigated twice a day until this is accomplished, when the perineum will present a smooth surface with no aperture.

We use a blood-transfusion as a routine immediately after the operation.

In a series of 76 cases, upon which I have carried out this technic, 6 have succumbed to the operation, giving an immediate mortality of 7.9 percent. Mr. Ernest Miles, who introduced this operation, has shown a five-year cure rate of 79.3 percent of cases operated on between 1920 and 1925.

48 Harley St., W. 1.

Progress in Stomatology

By E. L. Jones, Jr., D.D.S., Albany, N. Y.

THE approach to stomatology ("The study of the oral cavity and its diseases, with relation to diseases of the body"—Gould) may be divided into two sections: the practical approach and the clinical approach. By dividing stomatology into two phases or parts, we can better understand some of our clinical problems.

Let us first consider the practical method. Here we have that class of stomatologists or dentists who merely look for visible manifestations of purely local conditions, such as caries, putrescent or abscessed teeth, diseased gums and opportunities for replacements. Hardly any thought is given to whether these conditions are signs of systemic disease or whether they would, as an end-result, produce a systemic disease. The practical practitioner usually has an x-ray apparatus but, in the great majority of cases, he has little use of it for studying mass pathology, for usually it is not capable of taking such a picture. He uses the laboratory very little as a means of diagnosis, nor does he see nor recognize diseases that should be referred to other practitioners of the healing art.

The practical man is what his name implies (practical, not clinical, not theoretical) and is not a diagnostician, in the sense that the term should be used. He believes that caries is caused by an acid accumula-

tion under a mucin plaque—acid etching the enamel and making way for bacteria to further enter the tooth structure, etc. Calcium deficiency or faulty metabolism hardly enters the picture. A dry mouth or foul breath has no significance for him, other than as a local condition which calls for a mouth wash and prophylaxis, in an attempt to clear things up. Biology, pathology, bacteriology, symptomatology are terms he heard in school, but are of little value to him now. They are purely theoretical—to be read about in books. He can and does very good work in handling mouth rehabilitation by the insertion of fillings, restorations, etc., and thus does a very important piece of work; but, were he to take a postgraduate course in diagnosis and apply it, he soon would leave the practical field a little and temper his practicality with biology, therapeutics, pathology, etc., which most assuredly would be of great benefit to his patients, for the end-result of disease neglected is death.

The true stomatologist looks at the picture through an altogether different pair of glasses. He is, in reality, a clinical diagnostician. He will not attempt treatment until all symptoms, both subjective and objective, are evaluated and a definite diagnosis is established. Any deviation from normal physiologic function is disease and is handled as a disease. Disease in the

mouth is no different from disease in any other part of the body. We know that a pathologic condition in the mouth will upset the physiologic function of the body, and therefore we must recognize it and handle it accordingly. To the stomatologist, a tooth is part of the human anatomy and, if decayed, is so as a result of disease, either local or systemic.

ORAL DIAGNOSIS

A short time ago, I made a study of the part diagnosis, by dentists practicing general dentistry, played in the consideration of the oral cavity. The patients had just been diagnosed clinically and a chart made out for each. I then sent them to two practical dental practitioners and one rhino-laryngologist. The patients were instructed to ask for a mouth diagnosis.

The results were not only interesting, but startling. They give one something to think about.

Patient No. 1:—First "practical" dentist's diagnosis: Eight cavities in the upper jaw; lower right, bridge (bicuspid to molar) to be inserted; same on left side.

Second "practical" dentist's diagnosis: Essentially the same, except he found only five cavities and thought the gums should be treated. He suspected pyorrhea. Neither of these men subjected the patient to an x-ray study, nor did they use any other diagnostic method except the explorer and mouth mirror, although both had x-ray machines.

The rhino-laryngologist found a deviated septum and a pair of diseased tonsils. He also found that the patient had recently been troubled with "rheumatism" and advised her to have her head and teeth roentgenographed. He suspected that the tonsils were at the root of the rheumatic trouble, but had also heard of foci of infection at the apices of the teeth, so he played safe.

Our clinical chart showed the patient to be a woman 38 years old; weight 145 pounds; married, with one child; history, essentially negative, except for rheumatic pains of recent origin, in both legs, which sent her to my office.

A cyst the size of a walnut was found in the lower right mandible; three upper, right, posterior teeth, the second bicuspid and the first and second molars, were abscessed; the upper, left lateral had a large granuloma and there was a bicuspid root under a stationary bridge that extended



Fig. 1.—The right maxillary antrum is completely occluded. Merely extracting the bicuspids would be useless in clearing up the condition.

from the first bicuspid to the first molar, on devitalized abutments. We found, besides these lesions, the eight cavities that the first dentist saw. Her leukocyte count was over 18,000. To arrive at our diagnosis we used the x-rays, both intra- and extra-orally, and the laboratory for the blood count. Her blood pressure was taken and found to be typically low.

After these conditions were cleared up, the "rheumatism" vanished and the leukocyte count and blood pressure returned to normal.

Patient No. 2 received the same instructions as Patient No. 1.

The first "practical" dentist diagnosed an abscessed upper, right second bicuspid and advised treatment and filling, but made no x-ray study.

The second "practical" man gave the same report, except that he advised extraction, and made no x-ray study.

The rhino-laryngologist diagnosed empyema of the maxillary antrum (Fig. 1) and advised a radical Caldwell-Luc operation immediately, but said nothing about the mouth.

This patient went to these men with a frightfully swollen face and suffering considerable pain.

Our clinical diagnosis showed that the empyema was caused by an abscessed first bicuspid tooth, (Fig. 2) together with a large subperiosteal abscess, which is well shown in the accompanying roentgenogram.



Fig. 2.—An attempt was made to clear up the condition by drilling an opening in the second bicuspid. Note area around first bicuspid.

(Fig. 3). The diagnosis by the other men (if one can call it a diagnosis) was certainly far from being even close. So, in reality, three "practical" men had missed the conditions in this case entirely.

It is regrettable, from the standpoint of the dental profession, that these two cases were handled, diagnostically, as they were. Something should be done to put our house in order. Perhaps, if an economic or dollars and cents value were placed on the finding of these conditions dentists would suddenly see the value of it.

I have presented only two cases. Ten were used, and the results were no better. One was diagnosed as palatal abscess by seven out of ten dentists, and three referred the patient to a physician. The patient had an osteo-sarcoma.

In my opinion, the lack of understanding of the value of a complete and accurate diagnosis of the oral cavity is the greatest liability dentistry, as a whole, has to shoulder today. Minute pathology is understood by most men, but mass pathology is still sadly neglected. This is a fault that easily can and should be corrected.

We should look at all patients who come to us as physically ill human beings who, in order to be restored to normal health, must receive certain forms of treatment. For example, if a patient is lacking a few teeth, her digestive system is off the physiologic equilibrium and, in order to be restored to normality, the missing parts of her oral anatomy must be replaced. How are we to arrive at the best way, physiologically speaking, to handle it? By diagnosis of the oral structures first, then the plan for substitutes; not substitutes first, and then, when they fail to function, do the diagnostic work.

Diagnosis plays all-too-small a part in the general dental practitioner's practice, and it is my opinion that before long we will find ourselves in a panic because of the lack of appreciation of the importance of this part of health restoration. Nothing can be constructed without a definite plan. In dentistry the plan is *diagnosis*. With the agencies we have at our command today to help us classify disease, it is a shame not to take advantage of them.



Fig. 3.—The subperiosteal abscess is well shown, if one looks closely above the upper molars and backward from the nose.

ORAL THERAPY

Therapy in dentistry today has been revolutionized, as compared with the agencies we had fifteen years ago. Then the list of drugs comprised chiefly oil of cloves, iodine, cocaine and arsenic. In reality there is no comparison, for the therapeutic agencies we have today would fill a good-sized volume.

Until a few years ago, dentistry knew little of the curative value of ultraviolet rays. Actinotherapy was a toy in the experimental stage. But today, in certain diseases, it is almost indispensable. As a tonic, it has been brought before the public, by both the radio and the newspaper, to an extent that even the laity can extol its virtues by the hour.

Who, a few years ago, had heard of vaccines for the treatment of oral diseases? Yet, today, we make use of them almost daily in handling stubborn purulent infections, such as osteomyelitis and pyorrhea.

Neoparsphenamine is of great value in the treatment of Vincent's stomatitis, as has been demonstrated many times by writers for the various medical journals. Radium is another agent we make use of today in the treatment of certain types of malignant diseases. We would be lost without it.

We have also other forms of physical therapy, upon which, alone, a paper could be written and made extremely interesting, for in this field we must include the x-rays, infrared rays, therapeutic machines capable of ionizing medicaments, cauteries, active and passive wave impulses for the treatment of muscular rigidity of the face and neck, etc. This subject, is of course, still in its infancy, in the United States, but will be heard of more in the future, for it certainly has a great deal of merit. In Europe it is old.

But all of these physical therapeutic agents are of no value unless we know where, how and for what to use them. The general or specializing practitioner of medicine knows his pathology and uses it. He recognizes both the minute and gross deviations and appreciates, no doubt, the value of having at his service the knowledge of the competent oral diagnostician. Particularly is this true of the eye, ear, nose and throat group. The diseases of the eye, ear and nasal accessory sinuses, directly attributable to oral lesions, are too numerous to even attempt an enumeration. Closed foci of infection and their relation to systemic disease need no discussion. Any medical library contains volume after

volume on the subject by some of the greatest authorities in America and Europe.

If any of the previous portion of this paper is true, then our greatest problem in daily stomatologic practice is that of diagnosis, together with rectifying the harm done by poor or faulty diagnosis in the first instance.

Cooperation between stomatologists and other branches of the healing art used to be the great plea. Now, it is no longer sought for. It is a recognized fact that the various branches of the healing art are interdependent. Our problem is to qualify ourselves to accept this responsibility. We are doing it, no doubt, but let us resolve to make it a better job by further study of the science and art of stomatology.

SUMMARY

1.—Diagnosis is absolutely essential to the practice of stomatology.

2.—The great difference between the two factions, in my opinion, is the evaluation of this word.

3.—Diagnostic methods and agencies are at our disposal today that were not available a few years ago.

4.—The use of these would simplify our problems tremendously.

5.—Cooperation between various branches of the healing art used to be the plea. Today this is generally accepted as necessary and we must meet the conditions by more study and application of therapeutics and symptomatology.

75 State Street.

PERIODIC HEALTH EXAMINATIONS

A study of the movement for periodic health examinations during the period since its inauguration by the American Medical Association, in 1923, gives evidence that it is much more difficult to arouse the physicians to the importance of this matter than it is to interest the public. Numerous articles in magazines, newspapers and elsewhere, discussions in lay gatherings and societies of all sorts have brought the lay public in many localities to an appreciation of the great need and value of physical examinations of every human individual at reasonable intervals.

Constant complaints come from laymen that physicians to whom they apply for such examination are apathetic, indifferent and sometimes even hostile. They either belittle the need and value of the service or accept a fee for a casual, perfunctory, inadequate and unsatisfactory "once over."—DR. J. M. DODSON, of Chicago, in Illinois M. J., April, 1931.

New Form of Hospital Protection Against Sickness Costs

By Frank Deacon, M.D., Chicago

THE North Chicago Hospital, Chicago, has put into operation what it is hoped will develop into an effective plan of the nature of hospitalization protection for the cost of hospital service when needed.

The stimulus which produced the idea was the continual demand in the daily press and the various magazines of every kind for some plan of providing means to carry through a satisfactory hospitalization service where the person is unexpectedly called upon to provide such. This, of course, really means that the plan covers any form of sickness (within certain reasonable limits) that might arise, because, ordinarily, nobody expects to be sick and nobody provides any indemnity for sickness, expected or unexpected, even though most people consider it good business to take out insurance on their lives, homes, furniture, automobile, etc.

At the American Hospital Association convention, held in New Orleans in October, 1930, a great deal of time was used by authoritative speakers on this subject, and this fact also induced me to give considerable attention to formulating some solution of the problem.

At the present time the plan does not contemplate providing the doctor for the sick person. Experience, thus far, has shown, however, that this is a weakening factor in the success of the plan, because the person buying the protection, which is put out in the form of a Hospitalization Contract, as outlined herewith, is interested in the *whole* cost of the illness that it is proposed to provide against, and not merely a portion of it.

It is under consideration, therefore, to provide, under ethical standards, for the inclusion of the cost of the physician's services in this contract.

Another difficulty experienced in the actual operation of the plan is the general tendency of prospective mothers to take undue advantage of the rates offered, by appeal to their physician or by some subterfuge, to have a contract issued to them,

so that, for their coming confinement, they will have this cheap rate although the contract specifically provides that, if the patient has definite knowledge that she has an impending need for such confinement service, the contract shall not be operative.

This non-operative feature of the contract also refers to knowledge of imperative needs of other forms of hospitalization service, as well as the exclusion from its benefits of any person suffering with any form of mental, nervous or contagious disease.

It is hoped that business organizations having many employees of the "white-collar class" may take advantage of this new feature in hospital service and arrange to cover all such employees for routine illness, outside of industrial claims, so that each employee would agree to have deducted from his or her salary such an amount as may be necessary, the total amount for all employees being forwarded by the employing concern, on as regular a basis as for any form of protection now being provided.

There would seem to be room for little argument about the relative value of provision against sickness, as compared with provision against other forms of losses. It is considered that the degree of mental relief from the problem of possible sickness of a routine surgical or medical nature, existing amongst the general body of employees of any well-ordered organization, would be quite a factor in contributing to a high degree of desirable morale among the personnel of such concerns.

This plan has been in operation for only about three months and many pitfalls have been encountered in its operation, due to flaws resulting from inexperience. So far, though it is more or less a "jump in the dark" (there being no plan in this community that one could go by in avoiding mistakes), the plan is constantly being revamped and it is felt certain that it is an important step in the right direction and that it will be an eventual success. It has

An agreement, made and entered into this _____ day of _____, 193____, by and between the NORTH CHICAGO HOSPITAL, INC., a corporation duly organized under the laws of the State of Illinois, having its principal office and place of business at 2551 North Clark Street, Chicago, Illinois, party of the first part, and

_____ of _____
Name Address
party of the second part.

For and in consideration of the sum of THIRTY DOLLARS (\$30.00), having been paid to party of the first part by party of the second part, party of the first part hereby agrees to furnish without additional cost to party of the second part and the members of his or her family named herein, all of whom are residents of _____ during the period of ONE YEAR, beginning thirty (30) days after the date of this contract, HOSPITALIZATION SERVICE at the NORTH CHICAGO HOSPITAL located at 2551 North Clark Street, Chicago, Illinois.

HOSPITALIZATION SERVICE herein contracted for shall be interpreted as occupancy of a hospital bed with such care as is specified by physician attending and treating patients according to ethical standards of practice of medicine and surgery prescribed by the American Medical Association and the College of Surgeons. It shall include the required nursing service, a private room if necessary, routine clinical laboratory examinations, operating room facilities and all facilities consisting of surgical dressings, ether anaesthetic, pre-operative and post-operative hypodermics, generally and customarily in use in recognized hospital institutions.

The following conditions and limitations under this contract are expressly understood and agreed upon by the contracting parties:

1. No person entitled to HOSPITALIZATION SERVICE under this contract shall be admitted to the NORTH CHICAGO HOSPITAL unless attended and treated by a physician who is a member of the CHICAGO MEDICAL SOCIETY.
2. Fees for professional services of attending physicians are not included in this contract and are not a part of HOSPITALIZATION SERVICE above described.
3. This contract becomes operative and binding upon party of the first part, thirty (30) days after the full amount of THIRTY DOLLARS (\$30.00) has been paid by second party.
4. No person shall be entitled to receive HOSPITALIZATION SERVICE under this contract for a period of more than thirty (30) days from the date of entry. Regular charges generally made for the services rendered must be paid by patient after this thirty (30) day period has elapsed. After thirty (30) days have elapsed from the time of occupancy for a period of thirty (30) days by person or persons entitled to the HOSPITALIZATION SERVICE under this contract, their rights and privileges are re-established and this contract becomes operative as before.
5. This contract shall not be operative if party of the second part has definite knowledge that _____ or the persons named by him _____ in this contract have an impending need for surgical or HOSPITALIZATION SERVICE, and the party of the second part shall be entitled to no refund because of not availing _____ self of any of the benefits or privileges herein contracted for.
6. The following persons, in addition to party of the second part, shall be entitled to the HOSPITALIZATION SERVICE herein described and stipulated:
7. It is expressly understood this contract shall not be operative to any person or persons suffering from any form of mental, nervous or contagious diseases.

certainly excited considerable interest.

The many substantial advantages given by the plan will, it is thought, appeal to the persons who belong more especially to the so-called "middle class," who wish to pay their legitimate bills so long as they are within the limits of their ordinary means, and thus be relieved from any stigma of being beneficiaries of charity.

It is confidently expected that this plan of hospital protection against sickness ought to go a long way towards the satisfactory solution of the much-discussed "high cost of being sick," and this desirable consummation has been one of the main actuating motives in the placing of this protection before the people of the middle class who, it is claimed by social

and other authorities, are most in need of some such plan as the one offered, to solve the question of how they are to provide for adequate hospital care should the necessity arise.

On its side, the North Chicago Hospital is enabled to do this on account of its reliance on the equivalent of what, in ordinary mercantile business, is termed mass production, by means of the greatly increased volume of business which the hospital will carry on, due to the enormous increase in the number of people coming in for hospital treatment, whereby all available beds will be kept in use most of the time.

The form of Hospitalization Contract referred to is shown herewith.

SELF DEFENSE

The medical profession is subjected, from the outside, to many harsh and untrue criticisms. Our motives are questioned, even when we are trying to save the public from imposters or from itself. Our opposition to socialistic schemes and legislation makes many enemies for us among the paid uplifters and salaried reformers.

In self defense, therefore, it behooves us to make friends with as many honest organizations and individuals as possible.—DR. JAMES H. HUTTON, Pres. Chicago Med. Soc.

PHYSICAL · THERAPY AND RADIOLOGY

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ORAL VERSUS INTRAVENOUS CHOLECYSTOGRAPHY

SINCE the method of visualizing the gall-bladder was described by Graham and Cole, the question as to what constitutes the better method for the administration of the dye has been a moot one and today the subject of gall-bladder disease is seldom discussed without finding the same division of opinion.

In the early days, the intravenists had much the better of the argument, for the only known oral method was the administration of the dye in capsules which were coated with substances more or less insoluble in the acid stomach contents. Sometimes the capsules were dissolved in the alkaline duodenum and sometimes they were not, and finding four or five radio-opaque shadows in the bowel on a film made of the gall-bladder region was embarrassing, to say the least. The giving of the capsules every few minutes was quite an undertaking and the frequent nausea and vomiting experienced by the patient was the rule, rather than the exception.

Since the advent of the dye in the form of the emulsion, which came in 1928, has eliminated much of the real objection to

the oral method, the intravenists are now backed into their last line of trenches. The oral method is far more extensively employed now than is the intravenous.

Many elegant preparations of the dye are now on the market, and the fruit acid with which the dye is mixed forms an acid-fast mixture which passes through the stomach without difficulty. In the emulsion, the dye is suspended in very fine particles, which makes the necessary change to the soluble salt in the alkaline contents of the small bowel easy. This may be readily shown by the following experiment: the emulsion is prepared in the usual manner and a small amount of sodium carbonate added. Rapid stirring changes the emulsion to the soluble dye in a very few seconds.

The films made following the oral method are as good as those after the intravenous injection, and the reliability of one is practically as good as the other. We deny that there is any more reason to repeat a properly conducted oral study, in the absence of the filling of the gall-bladder, than there is for repeating the intravenous.

In using the oral method, it is advisable to use the same commercial preparation in every case. The preparations now on the market are probably of equal value, but one should be selected and administered in the same way in every case. In this way one may become acquainted with any peculiarities present in the preparation used and know what to expect in a given instance.

We are convinced that the manner in which the dye is taken is as important as the way in which the films are made and there must be no deviation from a regular routine. In our experience we have found that a thorough cleansing of the colon by a non-gas-producing laxative twenty-four hours before the administration of the dye, and the dye given fifteen or twenty minutes after a fat-free meal, fourteen hours before the first observation is made, will show pathologic changes in the gall-bladder, if these are present, in practically every case. The total exclusion of all sorts of food after taking the dye, avoiding even the sight or odor of them, also forms an

important part of the examination. Many men have demonstrated that the vomiting, of which much is made by the advocates of the intravenous method, is of little consequence if the dye has been retained for twenty minutes. It has been demonstrated many times that dye retained for that length of time will produce satisfactory shadows of the gall-bladder. When the dye is properly administered, cases of vomiting seldom occur. It is very true that, in the hands of the competent worker, serious accidents are few and far between in the intravenous method, but they all have occasional cases when part of the dye escapes into the surrounding tissues and an occasional case of phlebitis, which are, at least, real discomforts to the patient.

After all is said and done, why the argument? Given a patient with symptoms of gall-bladder disease, with physical findings pointing the same direction, a distorted gall-bladder practically clinches the diagnosis, no matter whether the dye be given by the simple, easy oral route, or by the more complicated intravenous method.

W. H. G.

What's New in Physical Therapy and Roentgenology

(A Résumé of the Improvements in Equipment and Technic During the Past Year)

By Herbert G. Frankel, D.D.S., St Louis, Mo.

THE question, what advances in physical therapy and roentgenology have been made recently? is one that is being asked by practically every physician who is interested in any form of electricity, and for that reason I shall try to give a short résumé of the newest developments in both physical therapy and x-ray technic during the past few years.

PHYSICAL THERAPY

Some very notable changes and improvements have been made in physical therapy equipment and technic during the past year. One of the new technics devised in

diathermy is a method for treating endocervicitis with a special type of electrode that grasps the cervix and produces much more thorough heating effects, so the authors state, than other similar electrodes.

A new diathermy machine has been devised for the raising of the general body temperature and is intended for the treatment of paresis. This treatment has opened up a new field for the use of diathermy in insane hospitals.

A new technic in tonsil coagulation has also been given to the profession. This particular method is much superior to the older methods and is much safer, the cur-

rent being now localized to the field of operation by a ring-shaped dispersing electrode, and not carried through the patient's body.

Several new surgical knives have been put on the market and several companies have improved their diathermy apparatus. One company is now making a diathermy machine with condensers, resonator and transformer, all immersed in oil. High voltage seems to be on the wane, but medium and low voltages are still being used considerably. Diathermy is still a potent influence in the practice of physical therapy and seems to be gaining in importance.

ULTRAVIOLET RAYS

While there have not been a great many changes in technic in ultraviolet therapy, there has been considerable improvement in equipment. Chromium has replaced polished aluminum as a reflecting material in one of the lamps, and it looks as if the others will follow suit. Intensity and quality of radiation seem to be the big talking points of the various manufacturers. The greatest achievement in ultraviolet research seems to be, however, the invention of a photometer for the measurement of the intensity of radiation. This I have described in another article. Two new patient-model quartz lamps have appeared on the market. A new carbon-arc solarium is also being marketed, and a great many of the smaller carbon arcs that flooded the country during the past few years seem to be disappearing.

LOW-WAVE CURRENTS

All of the low-wave generators have been improved and, in most instances, they have been beautified and improved in the quality of the currents that they produce. One can now safely say that two of the low-wave generators are producing smoother currents, and with much less noise and vibration.

There is a new instrument on the market for the production of graduated muscular contractions, devised by an English physician and bearing his name. It acts solely on one individual group of muscles and

is manually operated, although it produces an electric stimulus to the muscle itself. It is said to be ideal where one wishes to give passive or active manipulation under supervision.

These are the most important improvements in physical therapy apparatus and technic brought out during the past year.

X-RAYS

The x-rays have undergone a great many changes during the past year. One manufacturer has brought out a complete unit that is entirely shock-proof. The tube and transformer are immersed in oil and no open leads or wires are exposed.

There has also been a great improvement in the transformer field. The trend of the day seems to be towards valve-tube transformers and the improvements along this particular line have been radical and startling. It would not be surprising if the disc type of rectification would gradually disappear during the next few years, but mechanical transformers are still giving good service and will probably be used more or less for some time to come.

Several companies are manufacturing small, unrectified units which are complete x-ray plants that sell at very low prices. These are for the physician who does a small amount of work and does not wish to make a large investment in equipment.

X-ray accessories are also being improved. One company has just brought out a manually-operated tilt table that is very efficient and exceedingly easy to operate. A new type of stereoscope has just made its appearance in the field. It is called a table fluoroscope and is said to give better stereoscoping, due to clearer vision and no focusing, and it provides for multiple viewing of films.

Several companies have also announced the production of Grenz-ray apparatus for skin therapy.

These seem to be the most important recent changes in the x-ray field.

X-ray and physical therapy equipment is being more and more standardized and the quality of the products of all manufacturers is being constantly improved.

CLINICAL MISCELLANY

Gastrointestinal Motor Insufficiency

IT IS essential, in studying the motor phenomena of the gastrointestinal tract, to have roentgenograms made of the entire system. This will generally give a clue as to whether any organic lesions, such as ulcers or cancers, are the causes of motor insufficiency. However, once organic disease is ruled out, the cause for the functional disturbances must be ascertained.

In the study of the colon for motor insufficiency and stasis, the best method is by means of a barium colonic enema. Roentgenograms made by this means portray the true conditions existing in the entire colon, from the cecum to the sigmoid.

When a patient with constipation presents himself, it is essential to distinguish between the sluggish colon and the weakened, fatigued colon. In the former case, the stimulus to work is absent; in the latter, muscular coordination is lacking.

A patient who manifests the symptoms of a sluggish colon, complains of digestive disturbances; infrequent, hard and dry stools; and a great deal of abdominal distress. A film, taken 72 hours after the ingestion of a barium meal, would still show stasis in the ascending and transverse colons. On the other hand, a barium colon enema would show no defects in the course or outline of the colon on injection, but a plate taken after evacuation would show a major part of the enema retained. This is accounted for by the sluggishness in the muscular coats of the colon.

The patient with the lack of muscular coordination in the colon, due to weakened and fatigued muscles, gives the history of having loose stools, alternating with the dry and hard type. He (or she) also complains of distension and gas pains, for which he has often resorted to cathartics and enemas, frequently with no results. He eventually becomes very nervous.

In this type of patient, gastrointestinal studies show a very active colon. Six hours after ingestion of the barium, the head of the meal will have reached the sigmoid, indicating a marked colonic hypermotility. After 24 hours, the entire meal would be evacuated. A barium colon

enema is seen to pass through the smooth colon with a great speed. Finally, the cecum becomes greatly distended, due to lack of muscular tone, and few, if any, haustral markings are noted. After evacuation, we note that all the barium has left the colon, no resistance whatsoever having been offered in its exit.

TREATMENT

In the treatment of gastrointestinal conditions, we must resort to surgery if ulcer or malignant disease exists. On the other hand, if localized muscular inability or dysfunction is present, especially in the colon, treatment with the low-tension, direct (galvanic) current should be instituted.

Restoration of tone to sluggish muscles and nerves, by hand-manipulation and massage, has long been in use, prior to the development of the various electric devices in vogue today.

LOUIS J. GELBER, M.D.,
Paterson, N. J.

Don't forget "Who's Your Health Banker?" Send for your copy. It will build your practice.

Physical Therapy of Respiratory System Affections

ACUTE head colds, coryza, sinusitis, tracheobronchitis and bronchitis can be relieved successfully or almost aborted when treated from the very beginning with exposures to a heat lamp, at a distance of comfortable toleration, for half an hour to an hour, repeated every two or three hours.

In acute bronchitis or congestion in the chest, diathermy, applied for twenty to thirty minutes, to the chest, relieves pain, lessens the sense of tight feeling and shortens the duration of the acute symptoms. Luminous heat alone is clinically effective enough in children and, therefore, there is no need to use diathermy with the possible danger of burns in restless children. Local ultraviolet irradiations, to the extent of a mild sunburn, have also proved beneficial, but the use of luminous heat or in-

frared is much safer and simpler and, as a rule, gives definite relief from the start.

There is considerable literature on the use of diathermy in pneumonia. It is generally agreed that it serves as a powerful adjunct to other standard forms of therapy.—DR. R. KOVACS, of New York, in *M. J. Record*, Sept. 16, 1931.

Physical Therapy in Impotence

FOR impotence, treat the prostate by direct diathermy or infrared rays. The method I like best is to place the patient on an autocondensation couch, either on his side or abdomen, and introduce as

large a rectal electrode as the rectum will admit, attaching it to one terminal of the d'Arsonval current, the other terminal to the couch. This affords an autocondensation treatment, but it heats the prostate far better than any other method I have ever tried. Give this treatment for 30 or 40 minutes and then place the patient on the static chair and with the same electrode give 20 minutes of the static current in the rectum. Do not use the static wave to discomfort. If these treatments are administered two or three times a week good results will follow within eight or ten treatments.—DR. M. W. KAPP, of San Jose, Calif., in *Physic. Therap.*, July, 1931.

RECENT ABSTRACTS

High Blood Pressure Treated by Diathermy

In *Brit. J. Actinother. & Physiother.*, Feb., 1931, Dr. J. F. Halls Dally states that, in the early stages of gradually rising blood pressure, diathermy is useful in causing relief or disappearance of the indefinite but frequently troublesome symptoms associated with disturbance of the vasomotor equilibrium.

There is some reason to believe that nerve tissue may act as a specially good conductor of high-frequency currents. If this be confirmed, it is possible that diathermic heating may be found to exert a direct influence through nervous conducting paths, as well as by thermal action in activation of general and endocrine metabolic processes, reduction of blood viscosity, dilatation of blood vessels and acceleration of blood flow.

Absorption of pressor amines into the circulation results in toxic cardiovascular degeneration. In the majority of such cases, hepatic dysfunction, brought about by circulatory stasis, sometimes proceeding to the formation of gallstones, is superadded. Diathermic currents from electrodes applied to the front and back of the liver, by causing active hyperemia and reducing blood viscosity, lessen congestion and thus afford material aid to this, the largest gland in the body, by restoring the important property of detoxication, one of its chief functions.

Physical Therapy Measures in the Treatment of Burns

In *Arch. Phys. Therap., X-Ray, Radium*, June, 1931, Dr. W. S. Peck, of Ann Arbor, reports some cases to show the value of continuous heat application and ultraviolet irradiation in preparing wound surfaces after extensive burns, so that skin grafting would be successful.

The heat was derived from an "oven baker" containing five tungsten-filament lamps, consum-

ing 25 to 60 watts of current per bulb. The air was maintained about the injured parts at a temperature of 100 degrees F., by placing a sheet over the baker and its frame to exclude air currents.

Regarding ultraviolet irradiation, experience showed that, in heavily infected wounds, the best results, in preparing the surfaces for skin grafting, were obtained by an initial exposure of 100 to 150 percent of the erythema dose. The second and third treatments and further irradiations were usually decreased in intensity to about 70 percent of the erythema dose.

Within a period of about two weeks after daily treatment of this type was instituted, the wounds were ready for skin grafting. Further irradiation was again started three days after the placing of the skin grafts, to prevent the development of infection.

Mercury-arc lamps were used, at a potential of 70 volts and at a distance of 20 inches from the patient. The rate of output from a particular lamp was gaged by determining the length of exposure necessary to cause a standard intensity of erythema.

The effects of the rays are probably due to bactericidal action; to the production of active hyperemia; and perhaps to stimulation of cell growth.

Accuracy in Roentgen-Ray Dosage

Accurate determination of the dose enables the roentgen therapist to avoid the dangers of over-exposure and under-exposure.

In *J.A.M.A.*, Sept. 5, 1931, Dr. A. W. Erskine, of Cedar Rapids, describes the small and large ionization chambers generally used in the United States for the accurate determination of roentgen-ray dosage. The small chambers have the disadvantage that the current through them is so small that it must be measured by a very sensitive instrument, but they have the great advantage of being easily used for measurements directly on the skin of the patient.

Large ionization chambers are more conven-

ient to use than the small, but they measure roentgen-rays as they are produced instead of as they are received by the patient.

Either type of instrument should measure the skin dose with an error not greater than 10 percent. The accuracy of the determination of the dose received by a lesion within the body should not be greater than 25 percent, which compares rather favorably with that obtained in the administration of any drug except by the intravenous method.

The cost of measuring instruments is not unduly high. If 1,000 treatments are given in a year, the cost of measuring each one should not exceed 10 cents. The correct manipulation of such instruments is not beyond the skill of the average roentgenologist.

Low Back Pain

From the analysis of a statistical report by Drs. L. J. Miltner and C. S. Lowendorf, in *J. Bone & Joint Surg.*, Jan. 1931, the causes of low backache, in order of their relative importance, are: (1) arthritis (1350 cases); (2) sacroiliac, sacrolumbar and combined sprains (525 cases); (3) muscle strain (100 cases); (4) lumbar myositis (25 cases); (5) other unusual conditions, such as fractures of the transverse processes (50 cases).

In cases of low back pain due to static faults, the routine is to correct the postural misalignment with a corset or brace and to start a course of physical therapy (corrective exercise with "baking" and massage).

In severe traumatic cases (with or without complications), the patient is put on a stiff bed, sometimes with adhesive supporting; occasionally with a plaster jacket, this latter being less frequently used, because physical therapy should be instituted as soon as possible. When there is much muscle spasm, head and pelvic traction or head and leg extension is indicated. As the condition improves, heat, massage and corrective exercises are indicated.

Mechanical Vibration Therapy

The Committee on Mechanical Vibration Therapy, of the American Physical Therapy Association, sent out a questionnaire on vibration therapy to 380 members. As stated by Dr. J. J. P. Armstrong, of Douglas, Ariz., in *Physic. Therap.*, July, 1931, over 116 members reported that they had experienced the value of mechanical vibration in diagnosis and treatment of the nervous, muscular, digestive and circulatory systems.

Effects of Super-High-Frequency Radio Currents on Man

In *Arch. Phys. Therap.* X-Ray, Radium, Aug., 1931 Capt. W. H. Bell, M.D., and Lieut. Commander D. Ferguson, M.C., U. S. Navy, give a technical exposition of animal and other investigation upon the effects of exposure to super-high-frequency currents, especially on the health of men exposed under service conditions in the Navy.

The general conclusion reached is that, from a practical point of view, there are no dangers incident to such exposure. The majority of such symptoms as were complained of were merely heat effects, as ordinarily experienced. With the possible exception of the prolongation of drowsiness and weakness, all the symptoms have been observed in those exposed to much heat.

The Infrared Rays in Dental Surgery

In *Dent. Cosmos*, July, 1931, L. Biddle Duffield, D.D.S., of Philadelphia, remarks that in his experience the infrared red rays have been found to be exceedingly useful in many cases where ice-bags or compresses were formerly used.

Mild heat, well tolerated, is more beneficial and productive of better results than short treatments with intense heat. Acute and chronic processes in the teeth and gums respond satisfactorily and more quickly than by any other method the author has employed.

The infrared lamp is cheap, easily portable and can be attached to any electric-light socket, either alternating or direct current. The author has found that the infrared lamp rays never burn the patient nor cause tissue coagulation and that they can be entrusted to the patient himself to apply and regulate.

Hyperplasia takes place early with every inflammatory trouble. It is, therefore, necessary to anticipate tissue organization. Prompt cures in traumatic cases are certain when the swelling—the stasis—is promptly dissipated and the circulation restored. Therefore early treatment, especially with the infrared lamp, must not be neglected.

X-Ray Therapy in Hyperthyroidism

In *Brit. J. Physical Med.*, July 1931, Dr. F. Roberts refers to the growing appreciation of the value of the x-rays in hyperthyroidism. He advocates that this method should be tried from the outset, with or without medical treatment, leaving surgery as a last resort.

Probably no condition calls for so much judgment and discretion on the part of the radiologist, for his aim is not to destroy, as in malignant disease, but to restore, to re-establish an endocrine balance by gentle and gradual subjugation of the disturbing component. The gland, too, is comparatively superficial in position so that the rays require no great penetrating power in order to reach it.

The great majority of workers, while differing in detail, are agreed in using moderate dosage of moderate hardness, distributed over a period of several weeks. It is the author's practice to use a peak-voltage of 120 to 150 KV, filtered through 4 mm. of aluminum or sometimes 0.5 mm. of copper, at a focus-skin distance of 23 cm. He gives 50 to 60 percent of an erythema dose (approximately 300 "r") to each side of the neck, at intervals of seven to ten days.

The patient should lie on the side with the shoulder depressed, the sagittal axis of the head being in a horizontal plane at right angles to the central ray. A round or oval applicator is adjusted so as to cover the thyroid and upper part of the sternum. The other side is then

treated in the same way. By this means the part of the skin near the mid-line receives a double irradiation, but owing to the fact that the plane of the surface is set obliquely to the direction of the rays no harm will ensue. Some authorities recommend a frontal application in addition. If this is done, the dose has to be reduced in order to avoid damage to the skin.

In the majority of moderately severe cases, 9 to 12 applications are sufficient for one course. Another course may be given after a few months' rest.

BOOKS

Snow: Physical Therapy

TEXTBOOK OF PHYSICAL THERAPY. By William Benham Snow, M.D., Author of "A Manual of Electro-static Modes of Application, Therapeutics, Radiography and Radiotherapy," "Currents of High Potential of High and Other Frequencies," "The Therapeutics of Radiant Light and Heat and Convective Heat" Editor-in-Chief of Physical Therapeutics; late instructor, the New York Post Graduate School; past-president of the American Electrotherapeutic Association (American Physical Therapy Association); American president and fellow of the International Congress of Physical Therapy at Liege; etc. Volume I. Illustrated with 183 text cuts. New York: Scientific Authors Publishing Company 1931. Price \$10.00.

Volume one treats of the constant current, static electricity and high-frequency electricity, as they apply to therapy, and also of electro-surgery.

To those of us who had the great privilege of being Dr. Snow's disciples and of enjoying the precious fullness of his friendship, there come, as we read this book, the very echo of his voice and the manner of his speech. We remember with sadness that it was during the last crowded days of a very busy life, full of honors and achievement, that Dr. Snow strove to finish this his culminating work beneath the very shadow of the hand of death. We recall that that shadow enveloped him before he ever saw the book in print.

For these reasons we pass over many glaring imperfections in style and arrangement, in exposition and form of statement, and turn our thoughts directly upon the many therapeutic contributions made by Dr. Snow or by his students, which have stood the test of time and marked as milestones the road of physical medicine's progress.

It is in the department of electrostatic therapy that the author presents the bulk of his personal labors. We find effective treatments described for the arthritides, the neuritides including spinal cord affections, various diseases of the male and female, hypertrophic and atrophic cirrhosis of the liver, malarial splenomegaly,

the nephritides, pellagra, diabetes mellitus, hyperthyroidism, phlebitis, varicose veins, wounds and ulcers, contusions, chilblain, obesity, as well as diseases of the ear, eye, nose, mouth and associated sinuses.

The sections devoted to high-frequency treatments and electrosurgery, aside from the physics, are largely made up of the contributions of others to the subjects discussed.

We hope that the second volume will be free of the drawbacks of the first, that a very careful editorial pruning will permit the fruit of experience to gleam forth unobstructed by the leafy twigs of verbiage, and that due attention will be paid to the manner of exposition.

When the time comes for a second edition of the work, if it is to continue to claim the status of a textbook, much additional matter of consequence, now available both from American as well as foreign authors, must be included, which does not appear in the pages of this first edition.

The book is not one for a beginner in physical therapeutics, because of its faulty arrangement. It is, however, a mine of valuable facts for the advanced student in physical therapeutics, who can bring a discriminating mind to the study of its pages.

We look forward with pleasant anticipation to the appearance of the second volume, where we know that we shall meet with many of Dr. Snow's personal contributions in the fields of phototherapy and x-ray therapy.

F. T. W.

Proetz: Sinus Diagnosis and Treatment

THE DISPLACEMENT METHOD OF SINUS DIAGNOSIS AND TREATMENT. A Practical Guide to the Use of Radiopaques in the Nasal Sinuses with 146 Illustrations and a Chart. By Arthur A. Proetz, A.B., M.D., Assistant Professor of Clinical Otolaryngology in the Washington University School of Medicine, Fellow of the American Laryngological Association, etc. St. Louis, Mo.: Annals Publishing Company. 1931. Price \$6.00.

The anatomy and what is known of the physiology of the accessory nasal sinuses are discussed in this volume, and the principles and practice of the displacement of air in the sinuses by radiopaque solutions are described in detail. The filling of normal and abnormal sinuses is shown on satisfactory cuts and the various methods of obtaining satisfactory roentgenograms are described. In Dr. Proetz's method it is necessary to make the roentgenograms with the patient in the erect position, with the head at various angles, in order to secure the proper accessory sinus shadows.

The book is particularly interesting to laryngologists and roentgenologists, as the satisfactory study of sinuses following the instillation of radiopaque oils is not clearly understood by many individuals in these specialties.

W. H. G.

THE · SEMINAR

CONDUCTED BY

MAX THOREK, M.D., (Surgery)
GEORGE B. LAKE, M.D. (Medicine, Ethics and Economics)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.

Discussions should reach this office not later than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 11 (MEDICAL)

Presented by Dr. H. A. Canfield,
Bradford, Pa.

(See CLIN. MED. AND SURG., Nov. 1931,
p. 821)

Recapitulation: The patient is a male postal clerk, aged 51 years. In March, 1930, he was poisoned with carbon monoxide and was unconscious for three hours, but recovered entirely. He complains, since July, 1931, of *periodic* (not constant) attacks of confusion, dizziness, tremors in his hands and body, inaccuracy in his work, lack of confidence in himself and fears for his financial future. There are no physical signs of disease. His Wassermann reaction is negative and his blood pressure 124/90.

Requirement: Suggest diagnosis and treatment.

DISCUSSION BY DR. WALTER FREEMAN,
WASHINGTON, D. C.

While nervous symptoms not infrequently follow severe carbon monoxide poisoning, the interval between the intoxication and the onset of symptoms in this case is rather long. Moreover, the periodicity of the symptoms would indicate a functional rather than an organic reaction. The low blood pressure and especially the low pulse pressure probably indicates the diminished cerebral circulation and the symptoms complained of might well be due to this cause. One should, however, be on

one's guard against overlooking the early stages of an involutional depression.

For treatment, more rest and relaxation, increased intake of vitamins, strychnine sulphate in moderate doses and ultraviolet irradiation are suggested.

DISCUSSION BY DR. MEYER SOLOMON,
CHICAGO

The conditions which call for consideration in the diagnosis, upon which treatment depends, are as follow:

1.—In view of the history of definite carbon monoxide poisoning in March, 1930, the subsequent history up to the time of the patient's visit to the physician in July 1931 should be carefully gone into to determine whether or not there were mild symptoms more or less throughout this period which became increasingly severe until medical opinion was sought. Carbon monoxide poisoning may leave in its wake certain symptoms which may not clear up; and again, there may be apparent recovery, with symptoms appearing later. Even the Parkinsonian syndrome may occur. Superimposed on these symptoms of organic origin, there may be emotional manifestations as a complication. The treatment of the late effects (including the Parkinsonian syndrome) of carbon monoxide poisoning is palliative, as given in the usual textbook. The emotional manifestations would need special psychologic handling.

2.—An uncomplicated psychoneurosis

or functional psychosis may be present. The patient may have recovered fully from his carbon monoxide poisoning and his present symptoms may have no relation to it, but have been caused by certain personal difficulties and mental conflicts which have been too much for him. In this case, it will be necessary to go into the antecedent and the present personal difficulties (business, domestic, sex, etc.) and determine if they are responsible for the symptoms; show him the nature, origin, and development of his present condition; help him solve the problems or take a different attitude toward them; assure the patient of his curability; and employ suggestion and persuasion, in addition to explanation and analysis. Furthermore, use other measures indicated, such as more recreation, companionship, etc.

3.—Thyrotoxicosis must be excluded. Look for a syndrome of hyperthyroidism and have his basal metabolic rate determined under standard conditions.

4.—Organic neurologic conditions, other than that due to carbon monoxide poisoning, must be ruled out. Neurosyphilis can be excluded by a complete spinal fluid examination. A cardio-vascular-renal lesion is not indicated from the physical findings reported. An ophthalmoscopic examination will aid in excluding brain tumor.

DISCUSSION BY DR. R. S. HUBBS,
NORTH CHICAGO, ILL.*

Any discussion of this problem would be incomplete if it did not include the statement that no positive diagnosis can be made in the case solely from the facts submitted. The blood Wassermann reaction is negative in this case, but the spinal fluid findings are not mentioned. In a series of 204 cases of neurosyphilis recently studied, it was found that the earliest noted symptoms in 58 cases were dizziness, confusion, tremors or worry, somewhat as described in this case, and that 6.6 percent of them had a negative blood Wassermann reaction at the time of onset. This disease frequently presents remissions of varying duration, and the case described certainly may be one of early neurosyphilis.

Carbon monoxide poisoning occasionally gives late-appearing symptoms referable to the central nervous system, but usually pre-

sents signs of peripheral neuritis in addition. In fact, the peripheral neuritides are among the most common of the late effects of this poison. The neurologic examination, having revealed normal reflexes in this case, seems to cast doubt on the existence of peripheral neuritis, but this does not rule out late central nervous system injury, which may produce symptoms similar to those described. Upper motor neurone or motor cortical involvement, polioencephalitis with multiple softenings, and pseudo Parkinsonian syndromes are more common manifestations. However, these are frequently preceded by delirium, beginning a week or ten days after the exposure to the gas—a condition which was, apparently, not present in this case.

Multiple sclerosis, possibly present, would seem to be ruled out by the late onset and by the absence of the scanning speech defect and other motor symptoms which so dominate the picture in this condition. Yet early symptoms may be similar to those described.

Brain tumor must be considered. Ventriculography should assist in ruling out a well-developed neoplasm. An obstruction in the cerebrospinal fluid pathway would be indicated by the Queckenstedt sign, although caution might well be used in doing a spinal puncture.

Cerebral arteriosclerosis, not uncommon at the age of this patient, should, if present, be accompanied by sclerosis of the peripheral arteries and by changes in the fundic picture.

The age of the patient, together with a history of incidental involvement of consciousness, leaving no demonstrable clinical signs in its wake; the absence of physical findings; and the manifestation of a frank, episodically-recurring anxiety syndrome without objectively discernible physical basis, speak for a neurosis of affective origin. The therapeutic approach therefore would take such lines. Otherwise a more exhaustive search for organic disease would be followed by the therapeutic action such search disclosed to be indicated.

DISCUSSION BY DR. E. C. JUNGER,
SOLDIER, IA.

I doubt that this patient has any organic lesion anywhere. He uses no alcoholics nor tobacco, but that does not mean he has no bad habits nor practices.

This man is 51 years old and single.

*Published by permission of the Medical Director of the Veterans' Administration, who assumes no responsibility for the opinions expressed or the conclusions drawn by the writer.

That is a disease in itself. No normal man will tolerate such a thing. He needs a family to worry about. What has he done with his money? Where does he spend it and how? He should have \$25,000.00 in the bank or in good bonds, instead of worrying about his financial future. The post-office job should be given to a married man, letting this patient worry about something real. He should be able to earn a living working at ordinary common labor, out of doors and should find some real hobby to ride. He needs exercise and broader interests.

DISCUSSION BY DR. G. J. WARNSHUIS,
CEDARBURG, WIS.

The symptoms described are characteristic of neurasthenia or the "fatigue syndrome," and are predominantly subjective. The patient feels weak and yet, if he will make the effort to exert himself, he finds there is little or no diminution of muscular power; he says he cannot eat, but given the proper stimulation of the appetite, an attractively prepared table, savory food, etc., he will eat heartily and experience no distress. Nevertheless, the patient under consideration and many others like him are really in a desperate situation and he has good reason to feel that his job is in jeopardy because of failing mental powers. His anxiety in this respect is far from groundless and he realizes that something must be done.

The first point of interest in this history is the patient's weight and posture. With this poor weight of 126 pounds, he does not stoop like a cardiac or an anemic; his erect posture is impressive; part of it is involuntary and part is, perhaps, an effort to conceal his physical weakness by an alert bearing.

The rheumatism may not be altogether lacking in significance. It would at least demand a very searching examination of the tonsils—retracting the pillars, expressing the crypts, palpating lymph nodes, carefully comparing one side with the other. Then there is the ethmoidal region as a focus of infection which is very difficult to satisfy oneself about.

The carbon monoxide poisoning is not chronic. This must have been an alarming experience for him, however, and we ought to have more information about how it happened, how soon after it did these symptoms appear, etc. He was unconscious

more than three hours and he must have felt bad, yet he was back to work in a week. It must have been a serious necessity that would drive a man back to work in a week after such a severe loss of hemoglobin.

His diastolic blood pressure is a little too high and the systolic is not high enough. There is some deficiency in urinary function and there is some toxemia or nutritional disturbance, that does not show in the urine analysis. Determination of the chlorides, phosphates and ammonia nitrogen of the urine might give some useful information.

We have to consider hyperthyroidism and other endocrine dysfunctions. The pulse is a rather reliable guide in this. In case it can not be ruled out, use the metaholimeter.

We need, also, to know something more about his environment. Can he get along on his salary? If married, does his wife nag him? How long married? Any children? Are they a matter of pride to him or a sorrow? These things do not count for so much in a robust individual, but this man never was strong.

In regard to treatment, we should eliminate all these factors: focal infection, over-fatigue, fear, renal deficiency and mental distress, as much as possible. Then, in addition, regulate his habits: Get him to bed a little earlier and up earlier, so he has time to eat his breakfast and look at the paper before he goes to work. Ultra-violet radiation has a wonderful tonic effect in many of these cases, even if only four to five irradiations are given, at two to three-day intervals. Massage is most beneficial. It helps oxidation and nutrition.

This patient is probably too old and constitutionally inferior ever to become a strong man, but he can be made well and comfortable. Left to his own devices, he will degenerate into chronic invalidism, nephritis, peptic ulcer, cancer or almost any other form of degenerative disease that manifests itself in a state of prolonged functional impairment.

DISCUSSION BY DR. C. T. HOOD, CHICAGO

Two facts in the history of this case give a clue to the diagnosis:

First: The blood pressure of 124/90.

The systolic pressure, for a man of fifty-one is normal, but the diastolic pressure of 90 is too high. A normal diastolic

pressure for a man of his age would not be over 85 or, at most, 86. The pulse pressure is only 34, and should be 45.

If the doctor will have this patient save four or, better, six, two-hour samples of urine, beginning with the first voided in the morning, he will find that there is a marked tendency to fixation of the specific gravity. It may not be low (below 1.010), but it may be 1.014 to 1.018 or possibly higher. In other words, he has a defective kidney function, in all probability due to a limited glomerular nephritis, which is, as yet, not extensive enough to cause any increase in the systolic pressure, but is sufficient to raise the diastolic pressure to 90. It may not be possible to determine in this urine, except by repeated examinations, the presence of any albumin or casts.

Second: This nephritis is the result of his attacks of rheumatism.

The diagnosis of the case is *cerebral vasomotor spasm*, due to faulty kidney function.

His eyes should be examined, both as to refraction and the eye-grounds. The metabolic rate should be determined, under the most favorable conditions possible. His sexual life should be gone into carefully, and any irregularities corrected.

Treatment: Special attention should be given to elimination, without cathartics, little or no coffee, and low-protein, salt-poor diet, with abundance of fresh fruits.

Drugs: Should the metabolic rate be minus, just within the normal or a few points below the normal, thyroid extract is the remedy, but it must be given in small doses: 1/10 to 1/5 grain (6.4 to 12.8 mgm.), three times a day.

Should the metabolic rate be normal and the eyes require no special correction, give tincture of aconite, from one to three minims, three times a day, giving enough of the drug to produce moisture of the skin upon slight exertion.

With this may be given, especially if there is any disturbance of sleep, ten to twenty grains (0.65 to 1.3 Gm.) of the combination of sodium bromide and potassium bromide, at bedtime.

DISCUSSION BY DR. EDWARD L. TUOHY,
DULUTH, MINN.

The diagnosis here would seem to lie between a functional condition—a neurosis or neurasthenia—and an organic entity, in the nature of sequelae of encephalitis.

In adopting these diagnostic leads, it is

essential to concentrate upon both of the major items in the past history and the presenting symptoms. As to the latter, it should be noted that "tremors of the hands" and "inaccuracy" are far more suggestive than the general signs of "confusion, dizziness and fears"—especially in a period in which "financial uncertainty" is so much the rule instead of the exception. The type of tremor needs especial study and elucidation, as does the patient's coordination.

Of course, the historical lead of carbon monoxide exposure immediately suggests certain grave sequelae which connote the possibility of minute hemorrhages into the brain at the time of the three-hour unconsciousness incidental to some exposure to toxic gas. It would not be incompatible with the late effects of a carbon monoxide encephalitis to lead up to a Parkinsonian syndrome, in which personality changes, confusion, fixed facial expression, posture attitudes (turning test) and tremor are so characteristic. The pathologic changes in the nervous system following sufficient carbon monoxide exposure (not fitful daily episodes, simply producing headache or dizziness) to cause unconsciousness is well known. Thus the Parkinsonian syndrome is a *Globus Pallidus* affair, although the processes leading up to it must also affect the rest of the brain; but the determinative symptoms are now generally associated with the subcortical zone mentioned. It is interesting to group the noxious agents now as possible factors in encephalitis production:

- 1.—Vascular degenerations—senile arteriosclerosis (ordinary paralysis agitans).
- 2.—Non-specific infectious agents, such as influenza.
- 3.—Epidemic encephalitis — unknown origin. ("2" and "3" may be the same).
- 4.—Chorea (?).
- 5.—Infections or viruses associated with
 - A.—Measles
 - B.—Mumps
 - C.—Pertussis
 - D.—Vaccination.
- 6.—Chemical sources
 - A.—Lead
 - B.—Carbon monoxide—not itself a poison but does its damage through inducing high-grade anoxemia.

As to further diagnosis, the spinal fluid could be tested, chiefly to rule out hidden, unexpected syphilis, and some hold that

refinements of technic give leads as to multiple sclerosis: however, this patient should be studied very closely from the standpoint of what a simple but thorough neurologic survey discloses, including eyeground studies.

If the lead toward post encephalitic Parkinson's syndrome matures and ties up with developments, then the treatment is quite satisfactory with tincture of stramonium, 10 drops (650 mgm.) t.i.d., working the dose up cautiously, adding a drop to each dose daily until 20 to 30 drops are given t.i.d.

DISCUSSION BY DR. EMMET KEATING
CHICAGO

It is not easy to make a diagnosis from the necessarily short synopses of the histories and findings that appear in the *Seminar*. Even with a careful study of the record of a complete physical examination, if one has not seen the patient, the diagnosis submitted by the reader is liable to be far afield.

I will not hazard a diagnosis but will mention a few possibilities.

The history of rheumatism would lead one to think of heart lesions that might produce brain symptoms. It is doubtful if the carbon monoxide poisoning has anything to do with his present condition, although it is possible that the injury done to the nervous system may have been of a permanent character. Multiple, or one of the other sclerosis of the nervous system should be considered. The patient may be suffering from constipation, which is more real than apparent. The description of the attacks is in keeping with a toxemia involving the liver. Again, we have these symptoms in people suffering from petit mal epilepsy. The last thing that I would mention is syphilis. It must be remembered that negative blood and spinal-fluid Wassermann reactions are often found in patients who have syphilis.

This is a shining example of the kind of patient who should have a complete physical examination, in order to give him the benefit of effective and intelligent treatment.

CLOSING DISCUSSION BY DR. GEORGE B.
LAKE, CHICAGO

It is well to consider carefully the possible physical basis of a condition like that presented in this problem, as has been done in this splendid discussion, and one must

assume that Dr. Canfield did this before he stated, "There are no physical signs of disease." That leaves us in the presence of a strictly or chiefly psychic disorder, though there may be an endocrine deficiency which was not considered.

Unless Dr. Canfield is one of the very few practitioners who is able to conduct a thorough and enlightening psychic examination and apply the principles of psychotherapy adequately and with confidence, this patient should at once be referred to an intelligent, competent and sympathetic psychotherapist (not a Freudian psychoanalyst) for a complete study of his inner life and suggestions as to how to correct it. None of these suggestions can be made until the case is thoroughly understood.

With his family history, the man should have twenty-five or more profitable years before him, if his case is properly handled.

PROBLEM NO. 1, 1932 (MEDICAL)

Submitted by Dr. F. A. Wheaton,
Bellingham, Wash.

The patient is a woman 46 years old, who has had two children, now 28 and 23 years old, and who has been constipated most of her life.

Medical History: The patient has always been a very active and ambitious woman—golf and tennis champion of her community and holding offices in various clubs and societies. From 1903 to 1908 she suffered from colitis, since when she has had no symptoms of this malady. In 1925 her gall-bladder was removed; and three months thereafter a subphrenic abscess ruptured into the lung and drained through the bronchial tubes and the mouth during an emergency exploratory operation. This abscess refilled and ruptured into the pleura, from which 26 ounces of thin, bile-tinged fluid was aspirated. A rib resection was performed and, later, the abscess cavity was opened and drained, after which the pain, which had been very severe, gradually subsided and she enjoyed two years of good health.

Menstrual History: In 1924 she began to suffer from menorrhagia, and the periods occurred every three weeks. In December, 1928, following a slight attack of influenza, she ceased to menstruate for six months and menopausal symptoms were marked. In June, 1929, the flow was re-

(Continued on page 60)

THE · CLINIC

SYPHILOLOGY

Syphilis of the Retroperitoneal Glands Simulating Kidney Tumor*

By Winfield Scott Pugh, B.S., M.D., New York City

THE late Sir William Osler has been credited with the remark, "He who knows syphilis knows medicine." To have made that suggestion alone would suffice to enthrone him among the mighty minds of Medicine. Truly, syphilis is the great imitator or masquerader, as there is hardly a disease to which man falls heir that may not be simulated by this member of the infectious granulomas. It is just as likely to be found among the patricians as the plebians; the devoutly religious as the atheist. Remember how Cardinal Wolsey was accused of having transmitted this historic disease to "Bluff King Hal" by whispering in his ear.

Today we have a brief but interesting presentation, revealing syphilis in one of its most intriguing disguises. This recalls to my mind that, sometime ago, I reported, in *CLINICAL MEDICINE AND SURGERY*, a case of syphilis of the kidney mistaken for a non-luetic neoplasm, in which a nephrectomy was done. In this instance it was possible to make the correct diagnosis only in the microscopic laboratory.

CASE REPORT

The patient is a Negress, aged 41, single, admitted to our wards from another hospital.

Chief complaint: Pain in both lumbar regions and dysuria.

The case is one of exceeding interest from a standpoint of diagnosis alone and,

from what we can glean, more than a few have gone down to defeat in such attempts. On talking with the patient, it at once becomes evident she is of the group commonly called "constitutional psychopathic inferiors." Present-day titles are a little more involved. Why this apparent digression? Because, for the reason just stated, her family and previous personal history, as given by the patient, is by no means lucid and we must not be misguided by it.

Present trouble: About one year ago she noticed tenderness over the left lumbar region and was told by someone, according to her story, that she had kidney disease. In spite of this she does not remember having had any real examination, even of the urine. The history here becomes a little nebulous. However, a little later, she noticed swelling of the abdomen. Pregnancy was suggested, but the patient insisted that a lump appeared just above and to the left of the umbilicus and then seemed to grow downward. At this time the mass was entirely limited to the left side of the abdomen. Then it seemed to be spreading to the right side. The woman also tells us that she thought, at one time, that there was a swelling on the right side, just beneath the costal border; but it seemed to disappear. Vague pains were noticeable over the lymphatic area and friends told her that her eyes were yellow. It is more than likely that this jaundice was incident to pressure.

In spite of careful questioning, there is

*From the Department of Urology, City Hospital, New York City.

little other information directly obtainable from the patient. It seems, from the history sheet, she was admitted to a metropolitan hospital six weeks ago and the next morning a laparotomy was done, apparently after but a brief examination. The record states that abdominal tumor was suspected and a six-inch incision was made at the outer border of the left rectus, from the ribs to below the umbilicus. At operation a large mass was found and was recorded as being retroperitoneal. The growth extended up and down (that is, vertically) and rather suggested a kidney tumor. However, the wound was closed, naught but the exploratory abdominal section having been attempted. In ten days the wound in the left rectus area had healed sufficiently to satisfy those in charge of transportation, and she was promptly sent to us. We have no way of knowing why the mass was not touched, so we shall say, "For reasons best known to the surgeon." Like rheumatism, that expression covers a multitude of sins.

On admission to this institution the patient seemed much excited, stating that the abdominal tumor had grown rapidly since the operation a few weeks before. She says that now it bulges out just above the navel like a foot-ball—which it never did before. Some allowance must be made for the excitement in this case, as it may be due to the patient's low-grade mentality. It is clearly evident that the patient will assist us but little, and we are largely thrown on our own resources.

The examination reveals a Negress, five feet eight inches tall, who weighs about 120 pounds. From the wrinkled and creased skin we surmise that she has lost considerably in weight; in fact, the woman claims loss of thirty pounds, but it is probably more. The general appearance is odd for, in spite of the hundred and twenty pounds, she looks cadaverous, but it is not the cachexia of malignant disease. The eyes are bloodshot and there is a slight suggestion of exophthalmos. The joints of the elbows and hips seem slightly rigid.

The medical service tells us that there is evidence of bronchial breathing and an increase in tactile and vocal fremitus over the entire right side of chest. At the right apex there is distinct dullness over an area the size of a silver dollar. The left side of chest seems normal.

On reaching the upper right abdominal

quadrant, the examiner believes that there is a deep enlargement of the liver. A mass is present on the left side of abdominal area, being most marked under the left rectus muscle, but apparently it also extends considerably to the right of the median line. This was the same as the note from her former hospital. I might add, also, that this woman has told the nurses she has passed blood with the urine. It was probably from the pelvic organs, however.

We have examined the mass and it might be a kidney, but there are no definite urologic symptoms and the internists report that the combined phthalein test is fairly good. However, we must definitely rule out the urinary tract.

Urologic examination: A number 21 F. cystoscope passes readily and inspection reveals an apparently normal bladder and urethra. The ureteral orifices are normal and a number 6 F. catheter passes readily to each renal pelvis. No blood is seen and specimens taken show clear and sterile urine from both sides. The phenolsulphone-phthalein test shows color in the right tube in three minutes, and in five minutes on the left. A number of observations were made with the dye but, aside from a slight delay on the left side, all were normal. The sediments of the urine from each side showed a few white cells; otherwise they were negative. All Wassermann tests were negative, in both blood and spinal fluid.

Roentgenograms: Here we obtain something of real interest to us. The catheter on the right ascends directly to the kidney pelvis. On the left side we note that the catheter begins to bend outward at the pelvic brim, its most marked bowing being midway between the ribs and crest of the iliac bone.

A bilateral pyelogram was made and one sees a normal kidney and ureter on the right side. On the left there is a slight squeezing of the kidneys, as shown in Fig. 1. Note also the marked bowing of the ureter, from pressure of the mass. One sees, too, a large mass, extending from the ribs to pelvis—in fact, all over the left side and jutting well into the right. It is evident that there is a large growth here, possibly retroperitoneal, as the former hospital reported.

A blood study reveals about 65 percent of hemoglobin, 3,420,000 red cells and 9,000 leukocytes



Fig. 1.—Pyeloureterogram.

We were convinced there was no definite involvement of the urinary organs. Our suspense was soon relieved, as the patient became quite erratic on her fifth day in the hospital and was found dead in bed on the following day.

NECROPSY FINDINGS

We shall limit ourselves in this abstract

to the things in which we are directly interested.

When the peritoneum was opened, 300 cc. of free fluid was found in this cavity. Marked adhesions of the former operative scar were noted throughout its length. The intestines were normal. The liver was rather large and extended well below the costal margin, at first suggesting hypertrophic cirrhosis. In the right lobe, just external to the gall-ducts, there were several distinct nodules. A section was made through this area and the nodules revealed as typical syphilomas.

The pancreas seemed markedly thickened throughout, but particularly so where the tail approached the right kidney. Sections from this organ also showed a syphilitic stricture. In the retroperitoneal area a very large mass, about the size of a pound loaf of bread, was found, extending from the diaphragm down to the lumbo-sacral junction, its greatest width being opposite the bodies of the second and third lumbar vertebrae. The tail of the pancreas and the mass of retroperitoneal glands compressed the kidney slightly.

In the case just reported, one obtains a good idea of some of the unusual developments of syphilis, and it is reported for that reason.

30 East 40th Street.

PUBLIC RELATIONS AND COUNTY MEDICAL SOCIETIES

Every county society should have, as one of its most important and active committees, a Public Relations Committee, composed of men who have the confidence both of the profession and of the public.

The duties of such a committee would be: (1) Cooperation with the proper councils or committees of the parent medical societies in the spreading of real information regarding the diagnosis and treatment of disease and its prevention; (2) cooperation with local governmental or charitable public health activities, with the view to directing them so that they will be of real value, both to the public and the profession whose interests are so intimately interwoven; (3) the formation of a constructive public relations program, which will anticipate results and so assist in the determination and formation of public policies.

Physicians have not the knowledge or training needed to put such a program before the public most effectively. They should seek the services of specialists in public relations, if their program is to receive the enthusiastic support of the public, without which it can not be accomplished.—DR. N. S. DAVIS, III, in *Ill. M. J.*, July, 1931.

CLINICAL · NOTES AND PRACTICAL · SUGGESTIONS

One Hundred Years of Progress in Hay-Fever

IF NAMES make history, the year 1931 would seem to be an auspicious time for selecting those men who shall stand in the hall of fame for their achievements in the study of pollen allergy. Just one hundred years ago, Elliotson first recorded the idea that pollen might be the cause of hay-fever. This was at least a landmark, for until his time the total accomplishment in the study of hay-fever was Bostock's classic description of the disease and the name "hay-fever."

It is easy to give Elliotson too much credit, for he was not sure of the pollen theory. Not wishing to bear the blame for the suggestion, he was careful to say that the idea originated among the laity. If progress is the test of fame, the nominations cannot include any of the tireless investigators whose negative results litter the field during the forty years following the publication of Elliotson's papers.

That Blackley's name should be written high in the list is certain. His own hypersensitiveness to grass pollen is one of the most fortunate circumstances in hay-fever history. His contribution was almost entirely botanical and, most interesting to note, thirty years ahead of its time. He did not take advantage of the clinical significance of his fundamental discoveries, and the medical profession was too occupied with the then-new germ theory to investigate another complex phase of immunology.

Blackley's pollen research was thorough and painstaking. He made numerous tests

upon himself to prove that pollen is the sole cause of hay-fever symptoms. With only slight modifications those tests are in use today in diagnosis and are known as skin tests, eye tests, inhalant tests and patch tests. Much time and effort were expended in investigating the sources and quantitative atmospheric distribution of pollen.

Few accepted his inevitable conclusions and no one made a serious attempt to apply them clinically until after 1900, when Dunbar and his associates, with their antitoxin theory, began building on the solid botanical foundation already laid by Blackley. Their work was not done in a corner, and the interest and argument which it aroused finally led to the present method of pollen therapy.

To quote from Thommen:

"There are few instances in the history of modern medicine which parallel the Pollantin-Graminol episode, in which a false premise so effectively motivated a system of therapy that it quickly became well-nigh universally recognized as a definitely specific method of treatment, which, however, was found, on adequate investigation, to be so egregiously wanting. Faraday could have had no better example in mind when he penned those lines concerning the 'phantoms of the imagination,' the 'repressing and dissolving' of which is ever the task of the Truth of Science."

The quarrel over the merits of Pollantin vs Graminol is now only amusing history, but it certainly lighted the way to the next milepost, set up, in 1911 by Noon and his assistants—the substitution of simple pollen extracts for antitoxin to produce "active immunization." The present

method of inducing tolerance to pollen by the subcutaneous injection of pollen extract is thus barely twenty years old.

From an American standpoint, it seems unfortunate that Noon's niche was not filled by Koessler, who might easily have attained priority of publication. Regardless of priority, since 1911, American investigators have led the world in hay-fever research. The wide distribution of ragweed in the United States, and the consequent greater incidence of hay-fever in America, compared with any other country, has given the American physicians an immense advantage in this field.

Much has been done to improve hay-fever diagnosis and the technic of pollen extract administration during the past twenty years. Koessler's pessimistic prophecy, that the method would be ruined by commercial exploitation, has not come true. Commercial concerns are vying with a host of serious clinicians in fostering chemical and botanical research in pollen allergy.

Risking the hazards that beset all seers, I am leaving two niches in the hall of fame, both of which will, I hope, be filled by Americans. One of these is doubtless for the chemist who will isolate the toxic element in pollen, and the other is for the clinician or physiologist who will discover the mechanism of the physiologic response to pollen or the underlying basis of hypersensitiveness. Either of these discoveries will probably revolutionize our present empiric, though immensely effective, methods of pollen therapy and lead to the ultimate solution of the whole problem.

O. C. DURHAM,

Chicago, Ill.

The Common Cold

THE common cold is something more than a nuisance. It may be an uncommonly serious matter. In the first place, it may be the forerunner of a much more serious respiratory disease, such as bronchitis or pneumonia. In view of its possible association with these serious respiratory diseases, the common cold may actually become a menace to life.

In the second place, the common cold is a very expensive disease. In the factory and in the school, more time is lost from the common cold than from any other disease. Industry and education are

both hard hit, and the cost of time lost from work and study is a financial burden of no small proportions. The parent, the wage-earner and the tax-payer are paying the piper.

Since the common cold is such a large factor in the health of the nation and such a waste of the nation's time, it is of the utmost importance that its ravages be prevented as far as possible.

As a first principle in prevention, we must recognize the fact that colds are infectious and contagious. Much time and effort have been spent in trying to discover the particular germ responsible for the common cold. The latest work seems to indicate that the cause of this disease is to be found in a filterable virus.

The infective agent is found in the nasal secretions of the victims, who have acquired the infection by direct or indirect contact with someone else suffering from the disease.

The difficulty of avoiding infection is frankly acknowledged. During the cold season of the year, colds are very prevalent, and a large number of the patients are walking abroad in the land because they will not be kept in by "just a cold". The innocent bystanders suffer. They are sprayed with the infection liberated by a chorus of sneezes. The hands of a person with a cold are practically sure to be infected from his nasal secretions, and the infection will be conveyed to articles he handles and to other hands which he touches. Hence, it is almost impossible to avoid direct or indirect contact with the infection unless the people who have colds are willing to take measures for the protection of their fellows.

The best method of protection, for both the sick and the well, is for the patient with a cold to go home—to bed, if necessary—and to stay there until he has recovered. The patient needs quiet, rest and proper care, and he cannot obtain these in office, shop or factory. While thus doing the best thing for himself, he is likewise adopting one of the best methods of protecting the general public.

But the time has not yet come when everyone with a cold will retire from public contacts. Perhaps it is too much to expect in the case of a disease, the uncomplicated form of which does not actually force a person to his bed. If he does

go out among his fellows, however, he should, in common decency, make every effort to protect them. Every cough and sneeze should be covered to prevent spraying the infection over helpless associates. The patient's hands should be washed many times a day to remove the infection which might otherwise be passed on to someone else. Keeping the hands scrupulously clean is a simple but worthwhile aid to the prophylaxis of the common cold.

While we should avoid all possible contact with these sufferers in our midst, keeping a safe distance from them whenever possible, we have our own part to play in this matter of protection and prevention.

U. S. PUBLIC HEALTH SERVICE,
Washington, D. C.

[There is nothing in this brief discussion which is new to physicians; the last few words gives its keynote. Every medical man should be a wide and constant disseminator of information regarding hygiene and prophylaxis, to his patients and to others with whom he may come in contact, and these comments will bring the pertinent facts freshly to his mind and remind him to pass them on in a general way.

They will also, we hope, stimulate him to urge upon his patients the obvious advantages, for the "cold" sufferer, of spending a day or two in bed when the malady begins, instead of dragging himself around for a week or two, laying himself open to the serious danger of complications and placing the health and wellbeing of his associates in jeopardy.—Ed.]

Send for your copy of "What About Heart Diseases." Educate your patients.

Indications for Open Reduction of Fractures*

1.—There is a wide divergence of opinion as to indications for operative reduction of fractures. The percentage of fractures operated upon in various clinics varies from 4.6 percent to 45.5 percent.

2.—Mechanical ingenuity and skill in the employment of nonoperative reduction can reduce the number of operations.

3.—Fractures may be divided into three

classes in regard to indications for operation:

A.—Those in which operation is undeniably indicated. Examples of these are skull fractures with depression, accompanied by localizing signs or with middle meningeal hemorrhage; vertebral fractures with spinal fluid block; joint fractures with irreducible displacement of the fragments; fractures of the patella and olecranon with wide separation; certain fractures of the carpus or calcaneus.

B.—Those in which operation is undeniably contraindicated. Examples of these are nearly all fractures of the clavicle, distal end of the radius, fibula, compression fractures of the vertebra without cord symptoms, and fractures of the long bones in children.

C.—Those in which the indication for operation is debatable. Examples of these are certain transverse femur fractures, fractures of both bones of the forearm, fractures of the hip, etc.

4.—Generally speaking, it is much more conservative to operate after ten days of futile effort at nonoperative reduction than to persist in further effort.

5.—A more refined operative technic is required in the open reduction of fractures than in general surgical work. It is the duty of every surgeon doing fracture work to study this technic and to perfect himself in it.

FREDERICK CHRISTOPHER,
M.D., F.A.C.S.,

Winnetka, Ill.

Manganese and Mother-Love*

WITHIN a comparatively few years, we are coming to realize the immensely important part played in human life by certain mineral salts, which are present in the body in almost infinitesimal quantities, but without which health and wellbeing are impossible.

A relatively tiny amount of iodine, more or less, in the form of thyroxin, will make all the difference between the busy, excitable person, whose body is being burned up by a toxic goiter, and the stolid, idiotic cretin or the sodden sufferer from myxedema.

Manganese is so widely present in the food we eat (though in very minute quantities) that it is difficult to prepare a diet

*From the *Bulletin of the Evanston Branch of the Chicago Medical Society*, Nov., 1931.

*Abstract (by G. B. L.) of a talk given during the 1931 meeting of the American College of Physicians.

entirely free from the salts of this metal; but when such a diet was prepared and fed to white rats, it produced changes in their fertility, and particularly in their behavior toward their young, which were decidedly remarkable.

As a background for what is to follow, it may be well to sketch the normal behavior of female white rats toward their young.

Many experiments have shown that these little animals are, under ordinary circumstances, unable to recognize the members of the particular litter to which they have given birth, but their maternal instinct is so strong that they will nurse any normal baby rats which are given to them. New-born individuals and families have been changed about from one mother to another without causing any change in their behavior. In fact, on one occasion, in order to see how far this willingness to furnish nourishment to any nurslings which sought it would continue, a newly-delivered female white rat was deprived of her own family at the end of one week, and a newborn litter, from another mother, was substituted for them. This process was repeated each week, and the mother on which the trick was played continued to lactate for one year, although the normal period of lactation in these animals is only twenty-five days.

The female white rats, on a manganese-free diet, came in heat and were impregnated, as usual, by males on the same diet. But when the young were born, the mothers showed no maternal solicitude whatever, refusing to nurse them or have anything to do with them, so that they died.

After those first families were born, the rats of both sexes showed little sex appetite and, although they cohabited occasionally, the females did not again become pregnant.

In order to determine, if possible, which sex was responsible for the sterility, several of the males were sacrificed and, upon studying them, it was found that their testicles had undergone degenerative changes and contained no sperm cells.

The next experiments were planned to discover whether the changes which deprived the mother rats of their maternal instinct were solely in themselves, or whether there was also some change in their young.

A normal rat, which had just given birth to a litter, was deprived of them and a newly-born litter of manganese-free ratlets was substituted for them. Contrary to all precedents, the normally-fed mothers refused to nurse the little changelings and behaved toward them in much the same indifferent, or even disgusted, manner which their own mother had exhibited.

Of course, it is a bit fantastic to speak of manganese as a factor in mother-love, even in connection with the laboratory animals upon which these experiments were performed; but there seems little doubt that its absence from the diet causes profound changes in the reproductive organs and activities of rats, in their behavior toward their young, and even in the young themselves, which latter changes render the infant rats unacceptable or even obnoxious to normal females, contrary to the usual conditions in such cases.

What the results of these experiments may mean, in relation to human life and diet, no one can say, but they certainly open up an interesting avenue for observation and speculation in the rather new and decidedly fascinating field of the inorganic salts as accessory food factors.

E. V. McCOLLUM, A.M., Ph.D.,
Johns Hopkins University,
Baltimore, Md.

Don't forget "Who's Your Health Banker?" Send for your copy. It will build your practice.

Genesis of Social Insurance*

FOR a number of years I have been convinced that social insurance is one of the most important problems confronting the civilized nations of the world and that compulsory health insurance, a branch of social insurance, is the biggest quasi-medical question before the medical profession of this country today.

Social insurance is the hybrid offspring of impracticable sentimentalism and political expediency. It is an epidemic disease, first observed in Germany about fifty years ago, which has gradually spread and infected a considerable number of the nations of the earth and now has arrived at

*This is the first of a series of articles along this line.—Ed.

our very doors. Unless we succeed in establishing a rigorous quarantine of enlightened public opinion, it will surely gain a foothold in this country in the not-distant future.

Social insurance consists of the following subdivisions or parts: Compulsory health insurance, old-age pensions, widows' and orphans' pensions and unemployment pensions or doles. In none of the countries were they all adopted at the same time. Germany adopted compulsory health insurance in 1883, and all of the other forms since that time. Austria adopted compulsory health insurance in 1888; Hungary, in 1891. England adopted old-age pensions first, compulsory health insurance in 1911 and the others subsequently. In this country some of the states have adopted old-age pensions and some widows' and orphans' pensions, but so far none have adopted compulsory health insurance, for which negative blessing let us raise our voices in thanksgiving!

When the scientific physician is confronted with the problems presented by a new patient, he meets the situation in the following manner; he obtains a complete family and personal history, in order to ascertain, if possible, the causes which have brought about the condition; by his physical examination and laboratory investigations, he finds out what variations from the normal have taken place; after all this he is in a position to advise and institute the proper treatment. Let us follow the same course in the study of this problem.

During the late seventies, a number of German parlor socialists conceived the idea that the state should make itself responsible for the medical care of its workers. The sentiment in favor of compulsory health insurance grew rapidly among the workers, and Bismarck, although expressing serious doubts as to the soundness of such a measure, yet feeling that something had to be done in order to appease the clamor of the proletariat and the alarming growth of socialism adopted social insurance as a government measure and had a bill drafted and enacted into law.

In England, national insurance, as it is called there, had a slightly different setting but substantially the same background. In 1910, David Lloyd George, in order to strengthen himself politically, decided that the time for such legislation was opportune.

Not being able to speak German, he gathered about himself several interpreters, hied himself to Germany and, after interviewing the well-paid heads of the German system, and after having been wined and dined and lionized for two weeks or so, he returned to England very enthusiastic about the whole project, had a law drafted, and later secured its passage. In the recent parliamentary election the Liberal party, of which Lloyd George has been the head for many years, elected just four members to Parliament, or less than one percent of the whole number. So, while Lloyd George may have saved his political skin by National Insurance in 1911, he certainly lost his hide by it in 1931.

Practically every reform movement attracts to itself a considerable number of well-meaning, emotionally impressionable, impractical, irresponsible and very vociferous individuals, often the very ones who manage the propaganda and who hope to gain some pecuniary benefit from it. Social insurance is no exception to this general rule.

Some of the common characteristics of reformers are that they want a new law passed for every human ill, and when the law is enacted, they either sit back waiting for the millenium to arrive or they rush off looking for new evils to correct by new laws, forgetting to see to it that the law just passed is being properly enforced, and forgetting at all times that all laws must depend for their enforcement, not upon supermen, but upon men often of less than average intelligence and integrity—upon politicians and their henchmen, who are quick to see how these usually unsound and loosely drawn laws can be converted to their own advantage.

EDWARD H. OCHSNER, M.D.

Chicago, Ill.

Dentists to Advertise

THE American Dental Association in its National Convention, held at Memphis, Tenn., October 19th to 24th, has decided to advertise. This breaks the years' old convention and the official ethics against publicity. However, the advertising will not be in any sense commercial or individualized. Instead, it will be publicity on the highest plane possible, and will be devoted exclusively to dental education.

In a letter to the American Dental Asso-

ciation, sent its new President, Dr. Martin Dewey, of New York City, President Hoover voiced his sentiments as approving such an advanced and modern step and favoring educational publicity, particularly as it will especially benefit the children.

This publicity will be handled by the American Dental Association through a new bureau that has been organized and which will keep the public informed on the care of their teeth, mouth hygiene, proper diet and the prevention of dental troubles. The theme of the publicity will be along the lines of prevention. In no sense will any individual dentists' names be mentioned nor fees quoted.

Collecting Bills

- 1.—Never threaten criminal process, either by mail or otherwise.
- 2.—Never send post cards, bearing the name of either creditor or debtor, in referring to a claim, either paid or unpaid.
- 3.—Never send a post card to a debtor, referring directly or indirectly to an account he owes.
- 4.—Never send a post card receipt to a debtor or forwarder.
- 5.—Never threaten through the mail to expose the shortcomings of another.
- 6.—Do not mail dunning notices of any kind unsealed, either by first-class postage or third-class postage, unless sanctioned by a local postoffice inspector.

All efforts that border on threat are to be strictly avoided, being in conflict with the law, and are very liable to lead to serious entanglements.—*Credit World*.

Important Correction Re Nupercaine

IN the September, 1931, issue of CLIN. MED. AND SURG., in an abstract of an article on Anesthesia of the Peritonsillar Region, by Dr. M. R. Guttman, of Chicago, on page 683, a serious typographic error occurred which has just been called to our attention.

The statement was made that a 10 to 20 percent solution of Nupercaine was used. This is, of course, entirely too strong a solution. A 10 to 20 percent solution of

cocaine may be used, but the Nupercaine solution should be 2 percent.—Ed.

(Continued from page 51)

established, occurring every 28 days and very profuse (7 days duration), with many clots and an offensive odor. Midway between the periods she suffered attacks of severe pain. In April, 1930, the flow ceased again and the menopausal symptoms are again pronounced.

Present Illness: In October, 1920 she had an attack of influenza, and in November she noticed swelling of the tongue, with loss of the taste sensation and dysphagia. Then denuded patches began to appear on her tongue and the mucous membranes of the mouth and vagina. The conjunctivae were also affected. The patient feared that she was developing cancer of the throat, worried a great deal and placed herself on a very restricted diet, following which she lost 35 pounds in weight, only 5 pounds of which have been regained.

The lesions on the tongue follow a regular cycle and have been much worse during the menstrual periods. A patch will swell; become raw; develop a yellowish crust; and then heal, whereupon another area will behave in the same manner. She is able to digest anything she can swallow. Four infected teeth have been extracted and the sockets healed normally. No lesions have appeared on the skin.

Examination: Repeated Wassermann tests of the blood and spinal fluid, and repeated blood studies have been reported as negative. The basal metabolic rate is normal; blood pressure, 146/92. Cultures from the mouth and vagina have been reported negative (probably because antiseptics were used freely in these cavities). The gastric secretions have been examined chemically, and gastrointestinal roentgenograms have been made and reported as normal.

The tonsils are small and do not appear to be infected. The uterus is normal in size and position and there are no palpable pelvic or abdominal tumors. A thorough neurologic examination by a competent neurologist revealed no abnormalities.

Requirement: Suggest diagnosis and treatment.

THE · LEISURE · HOUR

Dr. Blank Goes to Heaven

Dr. Blank was on his way to that celestial reward to which all good physicians are said to be entitled when they retire permanently.

At last he perceived the faint gleam of the Golden Gates in the dim distance and breathed a sigh of glad some fulfillment. "This," said Dr. Blank, "is where I am going to forget those abscessed ears, acute appendixes, perforated ulcers, broken femurs, neurathenias and dysmenorrheas!"

A peaceful, almost ethereal look was on his face by the time he arrived at the Pearly Entrance. This did not deceive St. Peter, who knew him instantly for a medical man by the tired droop of the shoulders, the baggy knees, and the little black bag he clutched through force of habit.

"The name, Doctor?" inquired St. Peter, a bit mechanically to be sure, but with a welcoming smile.

Dr. Blank puffed up slightly with pride. "Joseph Blank, A.B., M.D., of Hopedale, Member of the Staff of—"

St. Peter raised a hand to interrupt. "One moment," he said, turning to the

Recording Angel, "have you a page for Dr. Blank?"

The Recording Angel pointed significantly in the ledger. For a moment St. Peter's snowy head was buried in the

great book. Finally he looked up, and his brow seemed to be a little sterner. The smile had disappeared.

"Doctor," he said, "did you do the best in your power by everybody on earth?"

"Why, I did the best I could sir," replied Dr. Blank, just a trifle puzzled.

"By everybody?" repeated the Guardian of the Gate heavily, "by everybody?"

"Why — why, I thought so, sir."

"What about the year you neglected to send out statements until they were three months old, while your wife went without her winter coat in order to keep the children fed? What about the nights and Sundays you spent away from your home and fire-

side, while your family suffered in silence, and then did not even send your statements on time? What about those hundred or so accounts you threw aside as uncollectable, after only two state-



The Tall One: "THERE SEEMS TO BE AN EPIDEMIC OF GASTRITIS ABOUT TOWN."

The Short One: "YES, A PATENT MEDICINE FAKIR HAS BEEN BROADCASTING FROM THE LOCAL STATION."

ments, that year your daughter had to wait on table while in college? Were those things doing right by everybody?"

Doctor Blank gulped and turned a shade paler. He had not expected this. "B—but, St. Peter," he said, "I was living up to what I believed to be the ethics of my profession! I was doing right as I saw it."

"What about the time," continued St. Peter, unheeding, "when you allowed dead-beats to spoil your wife's plans for a long-expected vacation? Were you always as thoughtful of your family as you were of strangers who too readily forgot their debts? Did you consider your family as you should?" The old doctor hung his head. "N—no, I guess I didn't St. Peter," he admitted. "But—but—this doesn't mean that——"

"It means," said St. Peter solemnly, "that this place is only for those who do unto themselves and families as they would do unto others. In consideration of your good deeds on Earth, however, we will admit you on one condition, but you must live strictly up to that."

"And what is it?" asked Doctor Blank in eager hope.

"That you will check off every dead-beat on this list of your former patients, so that we can send every one of them to Hades."—*Med. Pocket Quarterly*.

A Conditioned Reflex

A professor was in the habit of letting his dog sit by his side at meals. One evening when he was out at dinner, a lady next to him, wishing to attract his attention, gently touched his sleeve.

To the consternation of all present he mechanically transferred a bone from his plate and said, "O, get away. Take this out on the mat and eat it."—*London Tatler*.

The Technician's Dream

(Written by a Technician After Reading the Poem, "The Nurses' Heaven")*

When earth's last microbe has perished;
When the cultures have ceased to grow;
When the stained slides are no more examined

And all the reagents are low,
We shall sleep—and faith we shall need it!
Lie down for an aeon or two,
Till the Master of all laboratories
Shall teach us a new test to do.
And we who are worried and weeping
O'er results beyond our control,
Shall send our reports to the doctors,
With never a fear for the toll,
For we're sure that the knife of the surgeon

Will find what the blood-picture told.
And only the Master shall praise us,
And only the Master shall blame,
For who wants to labor for money,
When money will never buy fame?
But each for the joy of the working,
Shall peer o'er the 'scope day and night,
In search of the germs which are lurking
And hope to escape from our sight.

Dream on! Oh weary technician,
And sleep 'til the bugle shall blow,
For all the sick patients are better
And the doctors are ready to go.

JANE MATSON,

Topeka, Kansas.

Natural Curiosity

He had been to a stag dinner. "An odd thing occurred," he reported to his wife on his return home. "Jim Hedges left the table because some fellow told a story he didn't approve of."

"How noble of him," said the wife. "What was the story?"—*American Stories*.

So Why Worry?

A boy was about to purchase a seat for a cinema in the afternoon. The box-office man asked:

"Why aren't you at school?"

"Oh, its all right, sir," said the youngster, earnestly, "I've got measles."—*Outspan*.

*See CLIN. MED. AND SURG., Sept., 1931, p. 671.

THUMBNAIL · THERAPEUTICS

Immunity to Acute Anterior Poliomyelitis

So far as protective immunity for human beings is concerned, there is not yet sufficient experience on which to base an opinion. Flexner and Stewart have shown that, by the use of human immune serum, monkeys can be protected for short periods of from four to five days. But the experimental disease, because of direct cerebral inoculation, is a far more drastic test, presumably, than is the more slowly developing human malady. These authors therefore recommend the subcutaneous injection of from 20 to 25 cc. of serum, in children who have been obviously exposed in an area of epidemic activity. Failing an adequate supply of serum, there is no objection to giving exposed children 20 cc. of the father's whole blood intramuscularly.—DR. C. DRAPER, of New York, in *J.A.M.A.*, Oct. 17, 1931.

Diphtheria

My observations justify the treatment of severe cases of diphtheria by anesthesia and the injection of large doses of antitoxin while the anesthetic has mobilized the toxins in the blood.—DR. G. BILLARD, France, in "Phylaxis" (Macmillan, 1931).

Iron and Copper in the Diet

An editorial in *J.A.M.A.*, July 18, 1931, refers to the developed evidences that certain mineral elements which occur in small quantities only in our natural foods may enter into the nutritive exchanges in ways more important than we have hitherto believed.

Recently attention has been vigorously focused on one of these elements by the discovery that copper possesses the property of supplementing iron in forming hemoglobin in certain types of experimental

anemia. Nutritional anemia apparently can best be corrected in several species by the addition of copper, as well as iron, to the defective rations. It seems to be generally held at present that copper occupies a unique and important position in this respect.

Hot Bath Treatment for Deafness

A case of chronic and increasing deafness was greatly improved by immersion of the patient for 10 to 15 minutes in hot baths, to which a pound of commercial epsom salts had been added.—DR. JAS. ADAM in *Brit. M. J.*, Apr. 11, 1931.

Undulant Fever Treated Successfully by Autogenous Vaccine

In a case of undulant fever, the Hektoen phenomenon of a positive typhoid agglutination appeared and served to obscure temporarily the proper diagnosis. The etiologic agent was isolated, both by blood culture and by culture of the feces, and was identified as *Brucella suis*.

A highly concentrated, relatively soluble, autogenous antigen was prepared by growing the organism on 2-percent liver infusion agar. This antigen, on intramuscular injection, caused a complete and permanent subsidence of the infection in 48 hours.

The patient had never had typhoid nor had he received any injection of a typhoid vaccine.—DR. G. S. SCHILLING and associates of Moscow, Idaho, in *J.A.M.A.*, June 6, 1931.

Treatment of Common Colds with Vaccines

In *Eye, Ear, Nose & Throat Monthly*, Sept. 1931, Dr. W. W. Carter, of New York City, remarks that, as the filtrable virus causative of the common cold cannot be isolated for the purpose of making a vac-

cine, the next best thing to do is to make a vaccine from the organisms which are stimulated by the virus. He has found that individuals who are immunized by such a vaccine, either escape colds altogether or, if they have contracted a cold, it subsides suddenly within a few hours after treatment.

Hepatic Insufficiency Improved by Liver Therapy

A case of subacute hepatic insufficiency, with edema and jaundice, improved under liver therapy.—DR. A. SCHRUMPF, in *Klin. Wehnschr.*, June 6, 1931.

The Bacteriophage

Recent investigations suggest that the field of bacteriophage therapy should be limited to such closed organs as the intestine and to well-encapsulated pus cavities. If bacteriophage should prove to be the therapy of choice in but one of these conditions, it would amply repay the past 15 years of false starts and clinical disappointments.—Editorial in *J.A.M.A.*, Feb. 28, 1931.

The Common Cold in Children

The pharmacologic action of the commonly prescribed carbonate and chloride of ammonium warrants the dogmatic statement that they do not belong in cough mixtures given the child with a cold.—DR. W. J. CORCORAN, of Chicago, in *Illinois M. J.*, Mar., 1931.

Antivenin and Hemorrhage

From the history of a severe case of post-operative hemorrhage, persistent after all usual methods of control, it appears that antivenin (to which the case yielded) might be a valuable agent in the treatment of hemorrhagic disease. In giving the antivenin serum, it is only necessary to observe the same precautions as in giving any biologic remedy whose basis is horse serum.—DRS. M. R. STOCKTON and G. C. H. FRANKLIN, of Anton, Canal Zone, in *J.A.M.A.*, Feb. 28, 1931.

Theelin and Theelol

The non-proprietary name Theelin was given to the ovarian hormone in crystalline form, isolated by Doisy in 1929. Recently, Doisy and his co-workers recorded the discovery of a second estrogenic substance in the urine of pregnant women. This is a triatomic alcohol, for which the name Theelol has been proposed. Injections of minute quantities cause opening of the vagina of sexually immature rats and mice.

According to the latest conclusions, Theelin is approximately twice as active as Theelol in adult spayed rats, whereas Theelol is six or seven times as active as Theelin in immature female rats.

It would seem that two different substances, effective in producing changes in the genitalia of female rats, must exist in the extracts of the urine of pregnant women. It is too early to speculate on the possible uses of these substances.—Editorial in *J.A.M.A.*, July 4, 1931.

Phenobarbital in Infant Feeding

The administration of phenobarbital to 33 vomiting infants, not only enabled them to retain their food, but they seemed to digest and to assimilate it better than they did previous to the administration of the drug. One-fourth of a grain (0.016 Gm.) of phenobarbital seems to be the satisfactory dose for most babies, but occasionally $\frac{1}{8}$ grain (0.008 Gm.) is better. Twenty (20) cases of recurring colic were relieved by phenobarbital and the drug was also of value in pylorospasm and enterospasm. — DR. O. BARBOUR, in *Arch. Pediat.*, Jan., 1931.

Effect of Irradiated Ergosterol on Blood Coagulation

Animal experiments have shown that feeding of irradiated ergosterol (Vios-terol) is responsible for an increase in thrombocytes and decrease in the blood coagulation time.—DR. R. A. PHILLIPS, and associates, of St. Louis, in *Ann. Intern. Med.*, Mar., 1931.

Current · Medical · Literature

The Pituitary Gland in the Etiology of Cancer

It is known that the anterior pituitary is concerned in the promotion of growth. It is also known that in malignant disease the anterior pituitary hormone is present in the urine in sufficient quantity to give rise to a positive Zondek-Aschheim reaction. The same phenomenon is observed in pregnancy—considering pregnancy as an abnormal growth. Comparing pregnancy with a malignant growth, the difference is that the first is physiologically controlled, whereas the second is not.

The question of the controlling factors in such conditions has been investigated by Dr. W. Susman, of Manchester University, Eng., whose findings are reported in *Brit. Med. J.*, Oct. 31, 1931. The hypothesis was made that the factors were endocrine, but more especially, on account of certain available data, that the controlling hormone was that of the posterior pituitary lobe. From histologic examination of the pituitary in cancer cases, Susman found: (1) That the anterior pituitary was over-active and was stimulating growth; (2) that lesions of the posterior pituitary probably affected the quality and quantity of the posterior secretion and that by so doing, in cancer cases, the growth-restraining influence was inadequate.

Susman further found, experimentally, that in cancer cases there probably exists an unbalanced state in several of the ductless glands which permits the development of the new growth, especially an increased demand for carbohydrate, giving rise to abundant and enlarged islands of Langerhans in the pancreas.

Putting the theories into effect in experimentally-produced cancer in mice, Susman observed that in these animals the feeding of glucose (dextrose) in abundance has a stimulating effect in producing epitheliomas and that, within limits, the administration of pituitrin has a checking influence on malignant tumors, thus so far verifying the theories.

The clinical application of the experimental findings was carried out in a limited number of cases.

In established superficial cancer cases (breast, skin), in which the patients were put on a diet low in carbohydrates, with injections of 0.5 cc. to 1.00 cc. of pituitrin twice daily (in some cases 0.25 cc. to 0.5 cc. of theelin once daily were added), it was seen that the growing edge of the tumor disappeared and that the tumor tended to keratinize and separate. In a crucial test case—a slow-growing epithelioma of the dorsum of the foot—the tumor began to

separate after 14 days; in 6 weeks a probe could be inserted beneath it at several points and the microscopically proved epithelioma was successfully removed without any obvious cutting.

There is nothing, however, to prove that such cancerous tumors will not recur. The findings show, tentatively, that treatment based on the hypothesis laid down, has so far been successful. Life has been prolonged; the tumor has disappeared; all patients look and feel better.

The injections are not made into the tumor, but subcutaneously in the abdomen at some distance. The first clinical reaction is intense pain in the tumor, beginning at its growing edge; within some days the growth retracts and becomes covered with a scab; gradually it disappears, as noted above.

Use of Sulphur to Produce Fever in Vascular Disease

The artificial induction of fever as a therapeutic measure in peripheral vascular disease has been well demonstrated. The value of injections of sulphur in oil, as a pyro-therapeutic agent in paresis and other diseases, has been reported by many authors and the favorable literature on this subject is increasing.

In *Ann. Intern. Med.*, Oct., 1931, Drs. L. M. Waller and E. V. Allen, of the Mayo Foundation, Rochester, Minn., report that observations were made on pain at the site of injection; on relief of pain in ulcerated or gangrenous regions; on healing of ulcers; on height and duration of fever; and on chill and leukocytosis, in 15 cases of peripheral vascular disease, in which 32 intramuscular injections of sulphur, 2 percent in olive oil, were given. In 5 additional cases, twelve injections were given, but detailed observations were not made.

Fever began about seven hours after the injection; the temperature reached an average maximal level of 102° F. and lasted an average of fifty hours. Chills occurred following approximately 50 percent of the injections, but they were mild when doses of suspension of sulphur of 1.5 cc. or 2 cc., were given.

The most satisfactory dose in treatment of peripheral vascular disease was 1.5 cc. or 2 cc. Greater amounts were rarely necessary to produce effect, even later in the course of the injections.

Clinical improvement was as marked following intramuscular injection of sulphur as that induced by intravenous injection of typhoid

vaccine, and occasionally it was more striking.

The pain at the site of the injection varied from moderate to severe and constituted the greatest disadvantage to intramuscular injection of sulphur in olive oil.

Sulphur in olive oil injected intramuscularly, in the treatment of peripheral vascular disease, is most satisfactory for persons of advanced age, for those who are resistant to treatment by vaccine, and for those in whom the pain from the injection is not excessive.

The author's experience has been that patients who do not respond to typhoid vaccine for the production of fever will respond to injections of sulphur in oil.

Pituitary Therapy of Alopecia

As recorded in *J.A.M.A.*, Nov. 7, 1931, Dr. B. N. Bengtson, of Maywood, Ill., while treating a female patient for Froehlich's syndrome with pituitary extracts, five years ago, observed that, although formerly scant and atrophic, her hair growth became luxuriant.

Further experiments with pituitary medication in a number of cases of alopecia areata confirmed the finding that this treatment remedied the condition, and this preliminary report concerns 16 patients in whom it was found successful. Whether pituitary extract affects only certain types of alopecia or is applicable to all types of baldness is being investigated by the author.

The general procedure followed by Dr. Bengtson is as follows: One (1) cc. of anterior pituitary extract is given, by hypodermic injection, once a week; 1 cc. of solution of posterior pituitary, by hypodermic injection once a week; whole pituitary by mouth, 0.5 Gm. daily in three doses, five days a week. Lanugo and hair may be expected to appear after about four weeks. No other treatment was given except pituitary preparations. The only reaction symptoms noted were transient headaches in a few cases. Apart from the luxuriant and improved hair growth, other symptomatic and systemic improvements followed the pituitary medications.

Oxygen Therapy

Generally, the laity still has the idea that the giving of oxygen to a patient is a last resort when he is expected to die. But the general indication for oxygen therapy is anoxemia, acute or chronic, in any degree of intensity. Recent improvements in methods of administration, both by mask and oxygen tent as well as by regulation of the percentage of oxygen in the air inspired, have removed former difficulties which discredited the method.

In *Anesth. & Analg.*, July-Aug., 1931, Drs. A. M. Caine, W. Baker, and L. L. Dismuke, of New Orleans, state that the results from oxygen therapy are sometimes spectacular. If there is sufficient functioning lung tissue, there is almost immediate relief of cyanosis and dyspnea. The patient becomes quiet; the temperature drops; there is improved digestion, with relief of distension; relief of cough; better heart sounds. It is most pleasing to see a

baby "fighting for air" quiet down and go to sleep in a few minutes.

Oxygen therapy does not seem to lessen the toxicity of the organism in any infection, unless that infection is of the anaerobic type. It does, however, increase the resistance of the patient and relieve the strain caused by labored breathing, increased heart activity and other symptoms for which lack of oxygen is directly responsible.

Oxygen does not appear to have altered the factors known to influence the rate of mortality in pneumonia; but no statistical evaluation of results can be made until a similar group of untreated cases can be recorded.

The authors' rules are:

(1) Begin the use of oxygen as soon as a diagnosis of pneumonia is made. Do not wait for cyanosis.

(2) Treat all coughs, whether acute or chronic, with pure oxygen by the mask.

(3) Treat all head colds with pure oxygen by mask.

Rectal Ether Treatment for Pertussis

The early diagnosis of pertussis and its treatment, especially by rectal administration of ether in oil, are discussed by Dr. W. A. McGee, of Richmond, Va. in *J.A.M.A.*, Sept. 26, 1931.

On the basis of the observation of 121 cases treated by the rectal ether method, the author feels that this is the treatment of choice, in view of the consistently good results obtained with it and the fact that it can be easily procured and administered. When ether was used alone or in conjunction with other methods (vaccines and ephedrine hydrochloride) it gave rise to a greater reduction in leukocytes per day than the commonly used methods. It greatly ameliorates the severity of pertussis and shortens its course, especially when begun in the paroxysmal stage. Its influence is greater among children over 1 year of age. As a preventive measure, rectal injections of ether proved to be of no value.

The ether was mixed with equal parts of olive oil, for patients over 1 year old. The usual dose was 1 dram (4 cc.) per year of apparent age. The medicine was given twice daily, by gravity, through a number 18 to 20 French rubber catheter. Reduction in whooping or vomiting was usually noted within from 4 to 6 days.

Revived Interest in Vitamin A

An editorial in *Internat. Med. Digest*, July, 1931, reviewing the present activity in investigating the field of vitamin A, points out that this vitamin may have primary value, not only in defending the body against infective disease, but also in promoting recovery after infection has been established.

Mellanby and his co-workers have achieved results by using a concentrate, which suggests that the chances of recovery from puerperal fever are notably increased by treatment with vitamin A and, moreover, that this vitamin has preventive value against puerperal infections.

They go so far as to hint the possibility that intensive vitamin A therapy during pregnancy may offer a simple means of reducing the maternal mortality rate. Even if this hope is not fulfilled, the association between the absence of this factor and liability to bacterial infection may provide the key to less complex problems. There are various tests now in progress to show whether or not this has practical importance.

The Macrophage Cell System and Immunity

In *J.A.M.A.*, Oct. 24, 1931, Dr. F. P. Gay, of New York, describes how the Metchnikoff system of phagocytic defense of the body against infection has been expanded by greater study of the macrophage cells and their function, to which the Metchnikoff school attached only an indirect protective function in immunity.

According to the author, the mesenchymal mononuclear cells which comprise the macrophage system of mammals are the elements which constitute the most essential defense mechanism of the body against the living agents of disease. They are superior in this regard to the more readily attracted polymorphonuclears, even in acute bacterial infections. They are not only directly effective through phagocytosis, but produce the antibodies which increase their phagocytic power. The striking properties of antibodies have served to exaggerate their importance in actual protection and to obscure the much more important underlying functions of the tissues. Further progress in immunity would seem to lie in understanding differential cell participation better, and therapeutic advances will doubtless attend this increased knowledge.

Disease and Certain Food Constituents

Summarizing his experimental work during the past 10 years, on nutrition and the effects of certain food factors, Dr. E. Mellanby sets forth a number of interesting findings in *J.A.M.A.*, Jan. 31, 1931.

In regard to diet and the teeth, the author thinks that it is evident that the initiation and spread of caries can be greatly influenced by diets whose calcifying qualities vary, the experiments indicating that cereals interfere with calcification; cutting out cereals altogether from the diet, in addition to adding vitamin D, hastens the cure of established dental caries, as compared with adding vitamin D and leaving the cereal.

It seems probable to the author that we are within reasonable distance of getting complete control of dental caries by diet alone, both by producing perfect teeth and, even when the teeth are badly formed, by inhibiting the destructive action of bacteria on the teeth.

Concerning diet and the central nervous system, Dr. Mellanby deals especially with conditions in which there is a degeneration of the cord. The clinical conditions in which subacute combined degeneration of the cord is found include nervous ergotism (observed especially in countries where rye products are largely

eaten), lathyrism (observed in India, in places where large quantities of peas are eaten), in pellagra and in pernicious anemia. In all these conditions, the author's experimental work suggests that a deficiency of the fat-soluble vitamin A is at least one of the main causes.

In regard to pernicious anemia, certain observations suggest that it develops in consequence of two deficiencies in the liver; one a water-soluble factor, which controls the formation of red blood corpuscles, and the second a fat-soluble factor (vitamin A), which controls the nervous system.

The last subject dealt with by the author is the connection of vitamin A deficiency with infectious diseases. His experimental work, judged from an *a priori* standpoint, shows that there is a real possibility that the commonness of common septic lesions is due to the frequent deficiency of the vitamin A intake.

The main lesson derived from the author's researches seems to be that there are some factors in diet tending to the production of and others tending to the prevention of disease.

Endocrine Activity of the Ovary

In *J.A.M.A.*, Oct. 24, 1931, Dr. E. Allen, of Columbia, Mo., as the result of recent work on follicular and corpus luteum hormones, states that the outstanding animal reaction to the ovarian follicular hormone "theelin" is growth of the accessory genital tissues.

Therapeutically, it has been shown in many animal experiments that the follicular hormone does not stimulate the development of follicles in the ovary. Consequently primary hypo-ovarian conditions should probably be treated with anterior hypophysis extract, when that is purified and biologically standardized. In cases of amenorrhea or scanty menstruation of long duration, treatment with follicular hormone has, in a certain percentage of cases, started cyclic activity which has, in some instances, persisted after cessation of treatment. In other cases it has not proved effective. Disturbances in the secretion of other endocrine glands, especially the anterior hypophysis and thyroid, should be ruled out before the administration of theelin.

Several reports have shown that theelin is sometimes effective in the treatment of extreme menopause symptoms, either operative or natural. A declining dose would be indicated, in an effort merely to adjust the patient gradually to effects which are undoubtedly due to deficiency of this hormone.

Heating Apparatus for Intravenous Injections

In the *New York State J. Med.* for August 15, 1931, Dr. Harold F. Morrison, of Tuxedo Park, New York, describes the method which has been used at the Tuxedo Memorial Hospital for maintaining the temperature of intravenous and subcutaneous medications. The apparatus consists of a narrow wooden box, containing two ordinary incandescent bulbs in the back; these furnish the heat. The front is open and in this opening is placed the graduated cylinder of the ordinary intravenous set.

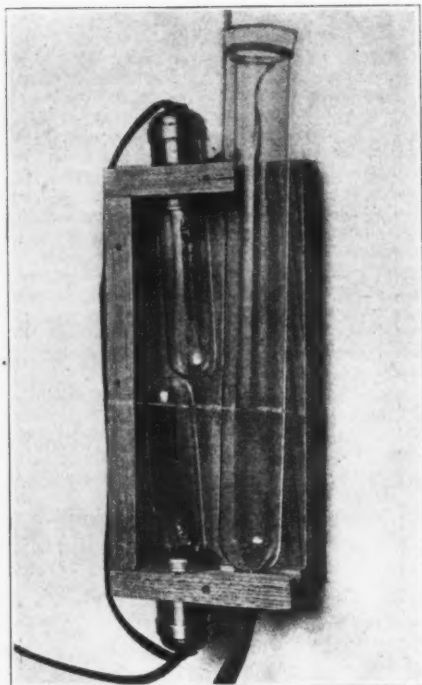


Fig. 1

Figure 1 shows the apparatus, with one side removed to show the lights and cylinder in position.

In practice, the heating box is hung on an irrigation stand and the lights turned on. The cylinder is filled with the intravenous solution, which has previously been warmed, and all air is expelled from the tubing. The cylinder is then slipped into the front of the heating box.

At the ordinary rate of flow for intravenous medications, the temperature in the cylinder is constant for all practical purposes.

The advantages are:

- 1.—Cost: Inexpensive: the heating box can be made by any carpenter.
- 2.—Simplicity: The usual intravenous set with cylinder container can be used without change.
- 3.—Temperature: Constant.
- 4.—Illumination: Because of lights behind the cylinder, the rate of flow and amount given are easily read.

Postoperative Ileus

There are two types of treatment of postoperative ileus, depending upon the promptness of the diagnosis, the amount of distention of the abdomen and the general condition of the patient, all of which will vary with the time the operation is decided upon.

If the original operation has not been performed for an infective or suppurative process and the obstruction occurs midway or high

in the small gut; if the diagnosis is made promptly; if there is little distention and if the general condition of the patient is good, it may then be safe to reopen the incision and correct the mechanical fault. If there is great distention, and the patient's condition is seriously affected, enterostomy is by far the best procedure and will save life; if the original operation has been performed for an infective process, it is best not to disturb the infected field, but do an enterostomy.—Dr. D. GUTHRIE, of Sayre, Pa., in *New York St. J. M.*, Aug. 15, 1931.

Treatment of Anemia of Infancy with Iron and Copper

An investigation of the treatment of so-called secondary anemia of infancy with iron and copper is contributed to *Bull. Johns Hopkins Hosp.*, Oct., 1931, by Dr. H. Josephs.

The investigation was based on the observation of a group of infants between the ages of 3 months and two years. It has shown that the first effect of medicinal iron is to stimulate hemopoietic activity, and, unless it does this, there is little chance that a rise in hemoglobin will follow. There is no evidence that food-iron has any effect on hemopoietic activity; neither is there any evidence that copper alone stimulates hemopoietic activity.

The one important conclusion drawn from the study was that medicinal iron was far superior to food-iron in the treatment of secondary anemias. It was however evident that, for a maximum rise in hemoglobin, some factor was needed in addition to iron and that in most cases this factor was not sufficiently supplied by the food, but was supplied by copper. The value of copper was especially evident in cases primarily deficient in hemoglobin, the so-called "hypochromic" anemias.

In the series of children treated, it was found that copper accelerated the rise in hemoglobin when given in addition to iron. In this series it made no difference whether the child was on a diet of milk alone or whether vegetables or eggs were included, and medicinal iron was found to be far superior to food-iron in causing a rapid recovery. Copper appears to accelerate hemoglobin formation and has no effect on the reticulocytes.

Mental Derangements in Hypothyroidism

As pointed out by Drs. Emeline P. Hayward and A. H. Woods, of Iowa City, in *J.A.M.A.*, July 18, 1931 insufficiency of thyroid secretion sometimes shows its most striking effects through malfunctioning of the brain cells. The patient may become depressed and apprehensive, thought may become slow and bodily movement retarded. The condition is easily mistaken for a depressed psychosis. Or there may be irritability and excitement, leading to the diagnosis of mania. Patients may show thought distortion, with hallucinations and delusions, which may become so bizarre as to be interpreted as signs of dementia praecox.

In these psychotic cases, even though the

physical signs of myxedema are present, those signs are easily overlooked. This is partly because some physicians at once relegate patients who show mental derangement into a nimbus of mystery and infer that somatic disease cannot be expressed in mental symptomatology. A more excusable cause for overlooking evidence of physical disease is that the patient's mental attitude sometimes makes physical examination difficult or impossible.

Etiology of Influenza

In a series of experiments by Dr. P. H. Long and associates, described in *J.A.M.A.*, Oct. 17, 1931, disorders characterized by fever, prostration and a leukopenia were transmitted to three chimpanzees by intranasal inoculation with bacteria-free filtrates of rhinopharyngeal washings obtained from individuals ill with human influenza. A similar condition has been produced in an ape during a non-epidemic period by means of an intranasal inoculation with unfiltered influenzal material, which had been preserved in the icebox for 123 days. The difficulty of interpreting with complete satisfaction the observations made on the apes is obvious, and the authors therefore present the observed facts with the knowledge that they conform with those previously reported in man by other investigators.

The Sexual Factor in Prostatic Hypertrophy

In *Am. J. Surg.*, July, 1931, Dr. E. W. Hirsch, of Chicago, stresses the frequency of prostatic hypertrophy among the Caucasian race. He does not believe that this difference lies in an anthropologic or geographic basis, but rather, in the main, because of the Caucasian's cultural code, which tends to repress the natural outlet of sexual energy.

Prostatic congestion is the price often paid for ignorance regarding the physiology of the sexual organs. The most logical method of preventing prostatic hypertrophy is periodic massage of the congested prostate or a sexual life which is compatible with age, inclination and general welfare of the patient.

Essential Nature of Asthma

As part of a symposium on asthma, Dr. B. Haseltine, of Chicago, in *Eye, Ear, Nose and Throat Monthly*, June, 1931, emphasizes his assertion that this disease is essentially a toxicosis, associated with and causative of vagus nerve irritation. The toxicosis may be engendered by the processes of metabolism or from a focus of infection.

The asthmatic state may be present prior to the appearance of bronchospasm. It is shown that bronchospasm may be induced by irritation of different fibers of branches of the vagus nerve; that it is possible to incite bronchospasm by mechanical irritation in the intranasal areas which normally induce coughing and sneezing.

The asthmatic patient is curable exactly in proportion to the completeness and permanency

with which two things can be accomplished, namely: (1) Restore normal neurophysiologic balance; (2) remove causes of vagus irritation. The first means, to the clinician, the removal of sources of toxic absorption and restoration of adequate elimination of toxic products. The second means the removal of all sources of vagus irritation in the respiratory tract, the great preponderance being ethmoid in origin. Sinus infection plays a prominent part in asthmatic manifestations.

The author points to the dangers which may accompany "desensitization" treatment of asthma, on the basis that it is essentially an allergic condition, and remarks that a constantly increasing number of clinicians, in both America and Europe, are turning to the views of the nature of asthma advocated by him. There is no other conception, theory or plan of treatment equal to this in completeness, time of continuous application or degree of success attained.

Intramuscular Use of Liver Extract

In *J.A.M.A.*, Aug. 1, 1931, Dr. M. B. Strauss and associates, of Boston, announce the preparation of a fractional liver extract suitable for intramuscular use.

Tests on classical pernicious anemia patients have shown that maximal reticulocyte responses were obtained from daily intramuscular injections.

The intramuscular have all the advantages of intravenous injections of liver extract and are of great value also from a therapeutic as well as an economic standpoint. Many patients prefer a small intramuscular injection to the ingestion of large quantities of plain liver or to take a liver extract by mouth.

Indications for the Simple Mastoid Operation

As pointed out by Dr. G. W. MacKenzie, of Philadelphia, in *Eye, Ear, Nose and Throat Monthly*, July, 1931, the indications for the simple mastoid operation are, briefly, those symptoms and signs produced by the extension of the suppurative process beyond the limits of the mucous membrane lining of the middle-ear cavity.

The more specific symptoms indicative of the direction toward which the suppuration tends to spread are:

1.—Facial weakness, together with slight twitchings in the muscles supplied by the seventh nerve. Associated with these symptoms there is occasionally a peculiar feeling referred to the affected muscles.

2.—Circumscribed headache and tenderness that can be covered by the thumb, a few centimeters above the external meatus. This symptom is suggestive of a congestion of the dural covering of the temporo-sphenoidal lobe.

3.—Excessive fever (102° or higher)—a temperature rather higher than that which occurs in mastoid empyema pure and simple. The higher temperature points toward involvement of the sinus.

4.—Unilateral headache rather more severe

than that listed among the general symptoms; and especially does this symptom assume importance as an indication of congestion of the dura. This symptom when present assumes the proportion of an urgent indication for operation.

5.—Vertigo is a symptom characteristic of inner-ear involvement.

6.—Nystagmus. In the congestive stage of inner-ear involvement, the nystagmus is rhythmic in character and is directed toward the side of the ear involved.

Chorea Treated by Induction of Fever

In *J.A.M.A.*, Aug. 1, 1934, Dr. Lucy P. Sutton, of New York, reports that 24 cases of chorea have been treated with intravenous injections of typhoid-paratyphoid vaccine as a means of producing fever. The results thus far have been good. There has been prompt cessation of the symptoms, and the course of the disease in these patients has seemed to be greatly shortened. In the cases reported, the average duration after treatment was started was from 8 to 9 days.

This treatment has been much more satisfactory than any other used at Bellevue Hospital in the children's Medical Service.

The vaccine used was that prepared by the New York City Health Department. It is given intravenously and contains, per cubic centimeter, *B. typhosus*, 1,000 million; *B. paratyphosus A*, 750 million; and *B. paratyphosus B*, 750 million. The first dose has usually been 0.2 or 0.25 cc., but it is probably wiser to give even a smaller initial dose (0.1 cc) to determine the individual's reaction. Successive doses have been determined by the reaction to the first dose. As much as 2.5 cc. has been given at a time, but not as an initial dose. The temperature reaches its peak in from 2 to 4 hours after the injection.

Clinical Use of Viosterol

A clinical study of the value of viosterol is reported by Dr. H. G. Poncher, in *J. Michigan St. M. S.*, April, 1931.

Beginning in November, 1928, all the infants born in the maternity ward of the Research and Educational Hospital, of the University of Illinois, were selected for this investigation for a period of one year. They were divided into three experimental groups at the age of one month. One-third was given a biologically standardized preparation of irradiated ergosterol (viosterol); one-third, cod liver oil; and one-third, no antirachitic therapy (control). The duration of the observation in this report embraced at least five months of the infants' lives, and 73 percent of the entire group were followed for a period of over eight months.

The results lead to the following conclusions:

- 1.—From a consideration of the clinical, roentgenographic and blood chemistry findings, it was concluded that, for the average normal infant from birth to one year, ten drops of viosterol in oil daily is the minimum dose for prophylaxis, if the administration is started within the first month of life.

- 2.—Mild rickets will frequently heal on from

15 to 20 drops a day; while some severe cases will require as much as 30 to 40 drops a day.

3.—Regarding the question as to what is the limit of safety in the therapeutic scale, some of the infants were fed from 21 to 52 times the prophylactic dose daily over a period of eight months, without evidence of hypercalcemia, diarrhea or loss of weight. While such doses are not advised, and are seldom indicated, it does emphasize the high limit of therapeutic safety.

4.—Introduction of viosterol into clinical medicine has given us an excellent and potent source of vitamin D, which, intelligently used, fulfills all requirements for this form of biologic therapy, and is a noteworthy contribution to the field of medicine.

Is Vitamin A an Anti-Infective Agent?

The impression, strengthened by various workers, that vitamin A acts as an anti-infective agent, has, according to an editorial in *J.A.M.A.*, Oct. 24, 1931, been intensified by the recent studies of Boynton and Bradford, at the University of Rochester, N. Y.

Young white rats were inoculated by intraperitoneal injection of a standard suspension of virulent bacteria, after 4, 6, 8 and 10 weeks on a vitamin A-free diet. Markedly decreased resistance to such infection, compared with controls receiving cod-liver oil, was demonstrated before other signs of vitamin A deficiency appeared.

No such susceptibility to similar inoculations was found in young rats on a diet deficient in vitamin D.

The Rochester investigators remarked that, whereas from 6 to 8 weeks on the vitamin A-free diet was required to deplete the body stores of vitamin A to such an extent as to result in cessation of growth, marked susceptibility to infection was evident as early as the fourth week on the deficient diet.

Increased susceptibility to infection is apparently an early manifestation of a dietary low in vitamin A, occurring long before other clinical signs of the deficiency of this vitamin are manifested.

New Method for Producing Vitamin D in Food

New ways of preserving food, enhancing its bone-building vitamin content and retaining fresh flavor and odor, through the use of invisible light, have been discovered. The discovery and its development to the point of commercial application is due to Prof. George Sperti and his associates, of the basic science research laboratory of the University of Cincinnati.

Narrow bands in the "rainbow" of invisible light or ultraviolet radiation were found to produce these beneficial effects upon food products. By exposing milk and other foods to these special wave-lengths of ultraviolet radiation, it was found possible to produce the artificial antirachitic vitamin D without an offensive taste and smell in the food. In this respect the new

discovery is claimed to be an improvement on the previous methods of activating foods that have been in use commercially for several years.

Foods treated with ultraviolet rays act in all ways as if they contain vitamin D, which prevents rickets. By using only a part of the total ultraviolet band of light waves, Professor Sperti, the director of the laboratory, has been able to produce much larger quantities of the vitamin. He avoided also the simultaneous destruction of the active substance by other constituents of the ultraviolet region, which occurs with the older method.

Filtered ultraviolet radiation promises to be effective in preserving food products, as well as in increasing the vitamin D content. Professor Sperti and his associates found it possible to sterilize milk, orange juice and other food products by exposing them to narrow spectral limits of the invisible ultraviolet rays.

The method depends on the existence of a critical wave-length, at which biologic reactions begin, and applies to all kinds of radiations. A given effect occurs with shorter wave-lengths, that contain larger quanta of energy, but longer wave-lengths than the critical one are inactive.

If yeast used in making bread is irradiated with a narrow frequency band of x-rays, unwanted mold cells, that would spoil the bread after baking, are killed, while the yeast cells are unharmed.—*Science News Letter*, Feb. 7, 1931.

Congenital Rectovesical Fistula

A case of the comparatively rare condition, congenital rectovesical fistula, is reported by Dr. W. E. Lower, of Cleveland, in *J. Urol.*, July 1931. There are only a few such case reported in the literature. The author's case was in a girl 7 years old, who was born with an imperforate anus, for which a colostomy was done. A fistula was found later near the rectosigmoid junction, connecting the large bowel with the bladder. The child has no vagina. Further operative measures have been deferred.

Corpus Luteum as a Regulator of Cellular Activity

In *Am. Med.*, June 1931, Dr. C. E. Irwin, of Cedar Rapids, Ia., suggests that the corpus luteum has a broader function than the regulation and control of menstruation or pregnancy; it furnishes the master secretion of the mature woman during the crest of her life, regulating many of her systemic functions.

Dr. Irwin mentions a case in which the administration of corpus luteum extract apparently exerted a controlling effect upon the development of the membrane lining the uterus and cervix; when polypi or hyperplasia of this membrane is present, the use of the extract ought to restore conditions to normal. It is possible also that it may have a controlling effect in the development of cancer in these organs.

Sedatives Employed in Psychoneuroses

In *M. J. & Record*, July 15, 1931, Dr. B. J. Weiss, of Philadelphia, remarks that in the various forms of nervous excitement seen in practice something is needed which will quiet the patient more quickly and positively than the bromides and for a considerable period, without actually putting him to sleep. Synthetic chemistry has provided this in the ureides—sedatives of a milder type than the barbiturates. The author has found excellent results from the use of allylisopropylacetylcarbamide, known as Sedormid. The usual dose is 4 grains (0.26 Gm.) three times a day; the drug is well tolerated and has apparently no untoward effects.

Dermatitis Medicamentosa Due to Ephedrine

In *J.A.M.A.*, Aug. 15, 1931, Drs. S. Ayres and N. P. Anderson, of Los Angeles, report 2 cases of dermatitis medicamentosa due to ephedrine. In these cases there were both a local dermatitis at the point of application (nasal spray) and a more or less generalized eruption, erythematous and purpuric in one case and erythematous and edematous in the other. In both patients the eruptions cleared up easily.

In the two cases the ephedrine was administered both as a nasal spray or inhalant and internally, in capsules of ordinary strength. Both patients were markedly hypersensitive to ephedrine scratch tests.

Knowledge that ephedrine can produce such cutaneous manifestations may be of value in determining the cause of obscure eruptions about the nose, face and elsewhere.

The Pathology of Vitamin A Deficiency

An editorial in *J.A.M.A.*, Sept. 12, 1931, sums up the most recent findings regarding the pathology of vitamin A deficiency. At present it seems justifiable to conclude that at least in man and the rat, the normal epithelium of the respiratory tract, the alimentary tract, the genito-urinary tract and the eye and paracocular glands, is desquamated and replaced by keratinized epithelium.

Some have termed vitamin A the anti-infective vitamin; but the predominance of opinion seems to be that if infection does appear it is really secondary to the derangement of the epithelium. Perhaps the enhanced "immunity" that vitamin A is assumed to confer is due to its maintenance of intact, healthy epithelial membranes, notably in the respiratory tract and its appendages. This would mean, if substantiated, that vitamin A helps to preserve one of the first lines of defense against the invasion of bacteria.

NEW · BOOKS

A book cannot deliver its message to you, no matter how much you read, until you give yourself to it in readiness.—WILL LEVINGTON COMFORT

Harrower: Endocrinology

PRACTICAL ENDOCRINOLOGY. By Henry R. Harrower, M.D. Glendale, Calif.: Pioneer Printing Co., Inc. 1931. Price \$5.00.

Fifteen or twenty years ago, Osler remarked, "The surgeons have been having their innings, and now it is medicine's turn; and the internal secretions will be the bat with which the runs are made." The evidence of today indicates that his prophecy is in process of fulfillment.

During the past five or ten years, the literature on the endocrines has reached such formidable proportions that it is impossible for a busy clinician to keep up with it all. Moreover, much of the material is of a highly technical nature—important, of course, but having no present clinical bearing—so that there has been a real need for a practical summary of the facts which can be used in the consulting room and at the bedside. This Dr. Harrower has now given us.

Here we have, not a textbook for connected and consecutive reading, but a reference work, in which the things one needs to know in clinical practice can be readily found, in a form that can be assimilated promptly for immediate use.

The first section deals with "Endocrine Fundamentals," and a study of the diagram on page 48 will give one the gist of many pages of reading.

In the second section, the present knowledge regarding the endocrine glands is presented, as briefly as is practicable, with details of the preparation of their extracts or active principles for therapeutic use.

Section III deals with endocrine diagnosis; and the tabular outlines, beginning on page 215, will enable any physician to arrive rapidly at a working diagnosis of the various endocrine dysfunctions. The various tests for determining the condition of the ductless glands are given in detail.

The fourth section is the practical nub of the work, for it deals with endocrine therapeutics, taking up the several disease conditions alphabetically and discussing them with sufficient particularity to enable any practitioner to use opotherapy intelligently.

The appendix discusses the various matters, such as the vitamins, diet, non-specific protein therapy, phagocyte stimulation etc., which have a direct bearing upon the functions of the ductless glands. There is also a good working bibliography and an excellent index.

Every Doctor of Medicine who is doing any clinical work at all, is or should be interested in endocrinology for these glands enter into all of the normal and pathologic activities of men

and are frequently at the basis of widely varying syndromes of disease. The physician who is still in the dark regarding the anatomy, physiology, pathology and therapeutics of endocrine disorders is heavily handicapped in giving his patients intelligent advice and help.

Here, in a readily available and assimilable form and at a moderate price, will be found all that any physician (except a highly specializing endocrinologist) needs to know about the ductless glands. This volume should find a place in every modern medical library.

Billard: Phylaxis

PHYLAXIS. By the late G. Billard, M.D., Professor of Physiology in the School of Medicine, Clermont-Ferrand. Translated by H. Gainsborough M.D., F.R.C.P., Physician to St. George's Hospital, London. New York: The Macmillan Company. 1931. Price \$3.00.

The man who is looking for an unusual line of medical thought will find it in this little volume by Billard.

Phylaxis is the antithesis of anaphylaxis. Many years ago, Billard became acquainted with the empiric knowledge that, while eating young broom shoots (containing sparteine), animals were immune to poisoning by venom. Experimental investigation confirmed the fact and further investigation, continued for years, discovered that certain mineral waters and other substances possessed similar powers of protection of animal organisms from particular neuro- and other toxins.

It appears from Billard's reasoning that the first substance ingested saturates the nerve cells and that the toxin has no power to act upon them while thus saturated.

Phylaxis is not immunity, in the ordinary sense. It is a dyeing or staining of the cell, which renders it impermeable to toxin. Neither is its action similar to anaphylaxis, which is a supersensitization of the cell.

How far the researches and findings of Billard will have a practical application in therapeutics is a matter of conjecture. At present they are to a great extent abstract and academic, but they open up a field for, perhaps, important possibilities.

At any rate this little book—which is incomplete, inasmuch as the early death of the author did not allow him to elaborate it and polish it into a finished literary form—is one that every thoughtful physician will enjoy and profit by reading; it is out of the common run; and, often, important happenings have small, modest beginnings. Moreover, it is a splendid

presentation of the scientific method, written in a clear, direct and simple style.

Incidentally, Billard's work is another example of what a resolute physician, working independently far from large centers of science, can accomplish by observation and patient experimental deduction.

American Medical Association: Primer on Fractures

ILLUSTRATED PRIMER ON FRACTURES; Prepared by the Cooperative Committee on Fractures Under Auspices of Section on Surgery, General and Abdominal and Section on Orthopedic Surgery. In Cooperation With Department of Scientific Exhibit of the American Medical Association. Second Edition, Revised and Re-edited. Chicago: American Medical Association. 1931. Price \$1.00.

Since 1926 the Section on Surgery and the Section on Orthopedic Surgery of the A.M.A. have appointed a Cooperative Committee on Fractures, to present, at the Annual Scientific Exhibit of the Association, a demonstration of the proper handling of fracture cases. For this purpose, each year, illustrated folders were prepared, depicting the approved methods and containing appropriate legends.

The demand for these folders by those who attended the annual demonstrations and others interested has been so great that it was deemed advisable to assemble all of them under one cover as a "Primer on Fractures." This primer has now reached a second edition in less than a year and advantage has been taken to expand it by the addition of some necessary topics, not included in the first edition but contained in the scientific exhibit of 1931.

The primer is not put forth as a standard treatment of fractures, but only what the joint committee considers as acceptable treatment for the common fractures.

Grierson: Modern Science

THE CONCLUSIONS OF MODERN SCIENCE Plainly Told by Walter Grierson ("The Enquiring Layman"). With an Introduction by J. W. N. Sullivan. London: George Newnes, Ltd., Southampton Street, Strand, W. C. 2. Price 2/6. (May be obtained through The Theosophical Press, Wheaton, Ill., at \$1.00.)

Only those who have been making some effort to keep up with what the scientists have been doing for the past decade or two, can fully realize that, within that period, the outlook upon and conceptions of our universe have undergone changes so profound as to be truly revolutionary.

The volumes wherein these newer ideas are set forth are numerous, varied and (many of them) so profound that the ordinary reader takes a peep into them and runs away. Grierson has spent a great deal of time with such books as those of Eddington, Jeans and Einstein, and has then skimmed their cream and offered it to us in a form which can be assimilated by the average thinking person. Not that we can understand all of it—the scientists themselves can not

do that—; but we are given an outlook into the real world of the students and can catch a glimpse of what man will be doing and thinking a hundred years from now.

The thing which strikes one most forcibly in studying the writings of the most advanced scientists is that the old, crudely materialistic views of man and the universe are a thing of the past. The solid, tight, immutable little atom of the nineteenth century has become a miniature solar system of whirling positive and negative charges of electricity; matter is merely one of the manifestations of energy; "space" is alive and working; and time is the fourth dimension.

The chapter headings give an idea of the field covered: What Astronomy Has to Say; The New Knowledge (in this chapter the "Quantum Theory" is outlined); The Mystery of the Ether; The Universe According to Einstein; Biology or the Science of Life; The Life and Mind of Animals; and Man the Interpreter.

Few books have appeared recently which will prove more thrilling to the man who thinks and is willing to exercise his mind on solid stuff; and few which contain more real pabulum for thought to the page. Every physician should be acquainted with the information contained between the covers of this little volume.

Long: Art of Love

SANE SEX LIFE AND SANE SEX LIVING. Some Things That All Sane People Ought to Know About Sex Nature and Sex Functioning; Its Place in the Economy of Life, Its Proper Training and Righteous Exercise. By H. W. Long, M.D. Authorized Edition. New York: Eugenics Publishing Co., Inc. 1922. Price \$2.00.

Every physician who has been in practice for five years or more has encountered patients suffering from neuroses, psychoneuroses or other forms of unhappiness, because of maladjustments of their sex life. Sometimes he has merely inferred this condition, but on other occasions he has been directly asked for advice. The pity of it is that, due to the prurient standards of Victorian false modesty under which most of the western world is still struggling, about three or four physicians out of five have no helpful information to impart (in the same way that they lack knowledge of contraceptive methods), because it has been illegal or considered "immoral" to disseminate this information. Fortunately for human welfare, these taboos are slowly but surely being exorcised!

One of the earliest books on the art and technic of love was that by Dr. H. W. Long. The early edition seems to have been limited and it has been out of print for several years. The medical profession, and all those who apply to the enlightened ones for help as well, are fortunate, in that this book has now been reprinted (and at a price considerably below that of the earlier edition), for, in spite of the fact that several worthwhile works along this line have appeared within the past few years, "Sane Sex Life and Sane Sex Living" remains, up to now, the best of all the books on erotology. It has, in fact, only one serious defect, and that is the omission from Chapter

VII of detailed information (which is now available) as to reliable methods of birth control. It is hoped that this omission may be corrected in future issues of the book appear.

A complete and thoroughly satisfying sex life can be lived only by those who enjoy the legal sanctions and complete freedom which marriage confers, so a book like this is of relatively little value to those who would mate in a furtive and promiscuous manner; but to the young couple, newly married or about to marry, the detailed and specific information contained within these covers would, in many instances, make all the difference between years of hell—or, at best, of distressing semi-frustration—and years of heaven. This instruction is especially needed by men, for the appalling sum of marital infelicity, which clogs the divorce courts and the offices of psychotherapists, is largely the result of ignorance and ineptitude on the part of husbands.

In the present state of public opinion, it is a delicate and difficult matter to describe, in detail, the technic of coitus, but so many people bitterly need such a description that Dr. Long is to be heartily congratulated upon, not merely the courage to do it at all, but equally upon the wisdom, sincerity and pure-mindedness which have enabled him to accomplish his purpose without prurience or prudery and in a manner which can be disturbing only to withered spinsters of both sexes. He says, "All has been set down in love, by a lover, for the sake of lovers yet to be," and this fact is obvious to any normal-minded person who will read the book through from beginning to end, as the author urges that it should be read.

Under present laws, this invaluable work can be sold only to physicians, but every man who is engaged in the practice of clinical medicine should own a copy, whether he has other similar books or not, for his own personal and professional information; and there is nothing to prevent him from purchasing copies for those among his patients who need such instruction and have the intelligence and sincerity to make proper use of it.

Kitson: Using the Mind

HOW TO USE YOUR MIND. A Psychology of Study. By Harry Dexter Kitson, Professor of Education, Teachers College, Columbia University. Third Edition, Revised and Reset. Philadelphia and London: J. B. Lippincott Company, 1926. Price \$1.75.

The chief purpose of a college education is to teach people how to study. Studying without a plan is like groping in a fog; and that is the unfortunate plight of too many people today.

Dr. Kitson has observed the floundering of many young people, who start upon their college careers with little or no knowledge of what it is all about, and has undertaken to give them a simple chart of the unknown seas upon which they are embarking, so that they may be able to avoid mental shipwreck and arrive at some worthy port—and he has done it very well.

Here is a brief, simple and practical guide-book for all those—whatever their age—who feel that they are not using their minds so effectively as they should and are willing to put forth

some honest effort to improve their mental efficiency. The art of taking notes, aids to memory, concentration, study habits, reasoning and a number of other subjects are dealt with in a truly helpful way.

Few or none of us are using our minds to their full capacity, and a serious study of Dr. Kitson's suggestions, with the actual carrying out of the exercises appended to each chapter, will bring us measurably nearer to that highly desirable goal.

Remember how a very wise man once said, "He who is too wise to learn is too foolish to attain."

McDonagh: Nature of Disease

THE NATURE OF DISEASE. By J. E. R. McDonagh, F.R.C.S. Part III—Section I. London: William Heinemann 1931. Price \$7.00.

In the October, 1929, issue of CLINICAL MEDICINE AND SURGERY, on page 772, we published a review of the first two volumes of this remarkable work, and a restudy of that estimate of the whole undertaking is recommended, before reading this review of the third volume.

The author proclaims his continuing faith in the dictum that there is but one disease—electro-chemical disequilibrium of the body tissues and fluids—the various syndromes which we call by the names of diseases being merely the varying manifestations of this disequilibrium, determined by the unique constitution of the individual patient.

It may be the result of the subconscious assimilation of some of McDonagh's ideas, or of discussing them with men who are using them in practice, but this volume seems to be more clearly written and readily understandable than the others.

There are four main parts to this work: A General Introduction; Mal-Coordination and Disease; Disease and the Nervous System; and Chronic Intestinal Intoxication; with an Epilogue and a fairly extensive index.

The introduction restates, in sixteen pages, the bases of the author's hypothesis, and makes it clearer than it was after studying the other two volumes. The second part (twenty-four pages) is occupied with a brief statement of F. M. Alexander's theory of psycho-physical mal-coordination, as set forth in his books, "Man's Supreme Inheritance" and "Constructive Conscious Control of the Individual," and the coordination of these ideas with the author's own. Much food for thought is here.

Disease and the Nervous System occupies about half of the remaining 325 pages, and Chronic Intestinal Intoxication the other half; but McDonagh seems so convinced that this latter condition is at the root of most, if not all, of our ills, that the thought spills over all through the book. An important and instructive part of the work consists of 177 more or less elaborated case reports, illustrating the application of the author's ideas to concrete instances of physical and mental malfunction or disorder.

Since writing the former comments, the reviewer has come in contact with several physicians who are putting McDonagh's ideas into practice, and they are all enthusiastic over the

results obtained. He has also met several of the author's British confreres, who seem to feel that he is "hipped on the colon washout." So there you are!

All in all, the feeling grows that, even if McDonagh is wrong in some of his hypotheses, he has, at least, shaken us out of our smug complacency, and may be giving us the basis for a new science and art of medicine, which will take us further in the prevention and control of disease (especially the former) than we can now imagine.

These three volumes ought to be in every medical library of any size or importance, available for study by such physicians as have open minds and are not averse to doing some tough reading, which will require the expenditure of a good deal of thought energy for its assimilation.

Educate your patients. Your copy of "What About Heart Disease?" is ready now.

Davis: Paying Sickness Bills

PAYING YOUR SICKNESS BILLS. By Michael M. Davis. Chicago: University of Chicago Press. 1931. Price \$2.50.

This is one of the *Medical Economic Series* edited by the author. In it the relation between the producers and consumers of medical service is analyzed from the point of view of a social economist and without any evident prejudice toward either side. The author has evidently made a thorough study of the available data on the cost of medical services, including hospital and professional charges, and the ability of different sections of the population to meet such charges.

The book is divided into three parts: Part I deals with the burden of sickness. The main point brought out here is that the earnings of a large percentage of the population scarcely provide for the ordinary, accepted necessities of life; these people look upon hospital and professional care as something that they can and have to do without, if it has to be paid for and, if absolutely necessary, it must come to them as "charity."

In Part II the main theme is the ability to pay for medical service. The "sliding scale" for hospital private patients of limited incomes and "case adjustments" in clinics are considered and deemed unsatisfactory to both physicians and patients.

In the third part of the book the evening up of the burden of sickness cost is considered. It is shown that, generally speaking, it is not the ordinary "average cost" of medical care that troubles the bulk of the middle and employed classes, but the necessarily high cost of the occasional unexpected serious sickness. This paralyzes them.

The impracticability of budgeting for probable sickness in the ordinary family is shown. Where sickness insurance schemes have been put

into force, especially by employers of labor, they have worked well, generally speaking, although they cannot be expected to cover all contingencies.

As both the sliding scale of charges and charity have been shown to be inadequate to meet the medical problems as presented by the present-day standards of civilization prevalent in the United States, the author comes logically and rather convincingly to the conclusion that the sickness bill of the people must be distributed and met either by public taxation or by insurance, with main reliance on the method of insurance.

As a comment on Mr. Davis's conclusion it may be suggested that, if correct, it puts the practitioner on the horns of the dilemma of State Medicine. If he avoids Scylla, he jumps into Charybdis. He may find a way of escape and possibly one path may be to go back as much as possible to the treatment of patients in the home, omitting some of the interesting but perhaps not strictly necessary technical frills carried out (and charged for) as routine in most hospitals. Perhaps 50 percent of patients treated in hospitals could be handled in their homes, but for various reasons they are hustled off to the institution.

Schweitzer: Medicine in Africa

ON THE EDGE OF THE PRIMEVAL FOREST. Experiences and Observations of a Doctor in Equatorial Africa. By Albert Schweitzer. Dr. Theol., Dr. Med., Dr. Phil. (Strassburg), Author of "The Quest of Historical Jesus," "J. S. Bach," etc. Translated by C. T. Campion, M.A., Oriei College, Oxford. Containing 16 Illustrations from Photographs, and a Sketch Map. Eighth Impression. New York: The Macmillan Company. London: A. & C. Black, Ltd. 1931. Price \$2.00.

Some years ago, Dr. Albert Schweitzer, realizing the work to be done in Africa, where the white race had carried "civilization," but not sufficient medical assistance to the natives, abandoned his professorship in the University of Strassburg (he is a well known theologian, philosopher and musician) and began the study of Medicine. At the same time his wife qualified as a nurse. Together, when their preparations were completed, they set out for the western coast of central Africa, to a district where sleeping sickness was rampant.

In this diary, written during the years 1913-17, the author describes interestingly the country and the people. He speaks particularly of the customs of the natives, the conditions under which they live, the diseases from which they suffer, and his work with them in a mission hospital. Summing up his experiences, he comments on the effects of colonization, its problems, and the value of missions.

The book, which is indexed, contains a sketch map and a number of good photographs. It will appeal to anyone interested in the work of the medical missionary.

M. L. C.

MEDICAL · NEWS



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Calmette on Trial

The world-famous biologist and assistant director of the Pasteur Institute, Paris, France, **Dr. Albert Calmette**, is, to all intents and purposes, on trial at Lübeck, Germany, where several physicians are before the court as having caused the deaths of a number of German children by the administration of Calmette's vaccine of attenuated, living tubercle bacilli, known as B.C.G., for the prevention of tuberculosis in babies.

It is to the credit of German scientists that they are practically unanimous in defending Calmette and his vaccine, which has been administered to about 400,000 babies in France and 70,000 in Rumania, with results reported as decidedly encouraging. This vaccine has been approved by the Hygiene Commission of the League of Nations and reported harmless by the French Academy of Medicine.

Small Hospital in Indiana

There seems to be an excellent opening for a live man in northern Indiana, where a physician who had been in practice for a long time, and had a well-equipped office and small hospital, has recently died suddenly. For particulars, write to Mrs. J. E. Rarick, Wolcottville, Ind.

American Postgraduate Tour

The Spring Assemblies of the Interstate Postgraduate Medical Association will occupy the time from April 18 to May 9, 1932, inclusive, and clinics will be held in Chicago, Cleveland, Boston, New Haven, New York, Philadelphia, Baltimore and Washington.

These clinical tours are arranged on the all-expense plan and are long enough to give real postgraduate instruction, but short enough so that the attendants will not lose touch with their practices. The rates are reasonable.

Complete particulars can be obtained from Dr. Wm. B. Peck, Freeport, Ill.

Nobel Prize in Medicine Awarded to Professor Warburg

Le Siècle Méd., Paris, Nov. 1, 1931, states that the Nobel prize for Medicine and Physiology has been awarded to Professor Otto Warburg, of the Institute Kaiser-Wilhelm, of Berlin-Dahlen, for his work concerning enzymes.

Medical Moving Pictures

The Medical Films Division of International 16mm Pictures, 630 Ninth Ave., New York City, announces the launching of an ambitious program of medical educational films.

Their first intention is to form a central bureau for the release of medical motion

pictures, through a series of 150 film exchanges now being established throughout the country. With this closely-knit organization of exchanges and consequent nationwide distribution afforded, it is hoped to encourage hospitals, medical schools, societies and centers to install equipment so that the motion picture can become an integral part of medical training.

In addition, a series of new films will be produced, under the direction of an Advisory Board of medical men, and will endeavor to conform to a curriculum of medical education, rather than the sporadic production of diverse films having no sequential relation to each other.

The program will not set out to displace any of the regular features of the usual medical curriculum, but to bring within the compass of every medical school, hospital or group, the various fields of specialized research, clinical work and treatment carried on by laboratories, centers and clinics recognized as being authorities on specific subjects, as basal metabolism, radium therapy, diathermy, endocrinology, etc.

International 16mm Pictures, Inc. is eager to hear from physicians and medical bodies who have already produced pictures or are in the process of production, so that the task of centralizing distribution and the issuing of a complete catalogue of medical films available may be completed.

Dr. Crowe to Visit U. S.

Dr. H. Warren Crowe, D.M., B.Ch. (Oxon.), M.R.S.C., L.R.C.P., of England, will visit this country shortly, for the purpose of lecturing at the Conference on Rheumatism, which is to be held at Pittsburgh.

Dr. Crowe is the author of "Vaccine Treatment of Chronic Rheumatic Diseases", "The Treatment of Chronic Arthritis and Rheumatism" and "Bacteriology and Surgery of Chronic Arthritis and Rheumatism" (Oxford University Press).

Quack Cancer Remedy Quashed

The U. S. Food and Drug Administration recently seized and destroyed sixteen shipments of the "B & M External Remedy," marketed by the F. E. Rollins Co.,

Boston, Mass., and advertised as a cure for cancer, tuberculosis, pleurisy, locomotor ataxia and other serious maladies. It was found to be merely a liniment made of oil of turpentine, ammonia water, eggs and small quantities of other ingredients. It seems that it is still possible to fool a good many of the people most of the time.



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Voronoff's Clinic

The Russian surgeon, Serge Voronoff, has made a world-wide sensation by his work and writings on the transplantation of gonads for the relief of many of the disabilities of senility—popularly spoken of as the "monkey-gland treatment" or "rejuvenation."

The picture shows the highly picturesque surroundings in which he works—the former Grimaldi Castle, Grimaldi, Italy.

Kerckhoff Institute Dedicated

The first scientific institute exclusively for the study and treatment of affections of the heart, erected in Bad Nauheim, Germany, with a donation of 4,700,000 marks, by Mrs. Louise E. Kerckhoff, of Los Angeles, in memory of her late husband, William G. Kerckhoff, was dedicated on October 17, 1931. A memorial fund of 2,000,000 marks has been provided, the interest of which is to be used for the granting of stipends for scientific

research and education. The first of these stipends will be allocated in October, 1932. A fund of 1,000,000 marks was provided for the maintenance of this Kerckhoff Institute, which is now completed, and 1,700,000 marks were used for its erection.

An indication of the Institute's worldwide activities is seen in the fact that working rooms are available for physicians from all countries. A unique museum makes independent study possible. It includes a graphic representation of the pharmacotherapy of disturbances of the circulatory system, a balneologic and balneographic museum, a department for physical therapy and physical diagnostics, and also an exhibition of the anatomy and physiology of the normal and the pathologic circulatory system.

Hospital Owns Roentgenograms

The question, whether roentgenograms belong to the hospital where they are made or to the patient who pays for them, has recently been officially decided in the circuit court of Genesee County, Mich., in favor of the hospital.

The court held that what the patients pay for is, not films and chemicals, but an expert opinion by the roentgenologist; and that the hospital should hold the pictures made, for its own and the patient's protection.

Quarter-Century of Pure Food Law

The Federal food and drugs act, generally known as the Pure Food Law, passed the quarter-century mark on June 30, 1931, having been signed by President Roosevelt in 1906.

During these twenty-five years, astonishing advances have been made in the science of nutrition, and the dietary habits of the people of the United States have been altered to an almost revolutionary degree. Would-be violators of the law have been restrained by 18,000 legal actions.

Death of Dr. Von Economo

Le Siècle Méd., Paris, Nov. 1, 1931, announces the sudden death of the Viennese notable, Dr. von Economo, celebrated neurologist and writer, whose original work on lethargic encephalitis is well known.

Marriage Advice Bureau

Young married couples, and those about to be married, need a great deal of sound advice, other than that concerning birth control, and the European countries, especially England and Germany, have had, for a number of years, arrangements for giving it to them.

The Birth Control Clinic, at 17 W. 16th St., New York City, has now established a Marriage Advice Bureau, said to be the first in the United States, where needed information is being made available to hundreds of men and women.

Canadian Subscriptions

The Canadian Government has recently imposed a duty on magazines entering that country, which will necessitate the addition of \$1.00 to the subscription price of *CLIN. MED. AND SURG.*, going to Canadian physicians, just as \$1.00 is added to foreign subscriptions to pay the extra postage.

The Prescriber's Quarter-Centenary

The Prescriber, our interesting contemporary published in Edinburgh, Scotland, has recently celebrated its twenty-fifth birthday under the continuous direction of its present editor, Dr. Thomas Stephenson. The October number contains an editorial article sketching the history of the journal, a number of "birthday greetings" from old subscribers and a plate showing views of the present offices at 13, Glencairn Crescent, Edinburgh. The chief medical subject dealt with in this number is skin diseases, a review of which covers 31 pages.

Hormone Treatment of Cancer

In a pamphlet published at Kyoto, Japan, Dr. T. Ishihara, describes what he calls the "P-O-U" (Pituitary-ovary-umbilicus) hormone treatment of cancer. The principal component is a hormone, stated to be contained in Wharton's jelly of the umbilical cord, which has the faculty of decomposing decidual cells and cancer cells. The remedy is administered orally and many rapid clinical cures are reported. "P-O-U" is also stated to have diagnostic value in the case of cancerous tumors.

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to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physician's use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment, or medicinal supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, or registered pharmacist, or a nurse.

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